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ABSTRACT

Data presented in this report were collected in the 19th Annual National Science Foundation and National Institutes of Health Survey of Graduate Students and Postdoctorates in Science and Engineering of 1990. The survey universe was composed of all institutions in the United States with departments or programs offering courses of study at the postbaccalaureate level in any science or engineering field. Medical schools and other specialized institutions offering first-professional doctorates in health-related fields were also included. The 1990 survey universe included 334 doctorate-granting institutions and 276 master's-granting institutions. Section I, subsection A, presents national totals for all institutions for academic year 1990/91. Subsection B contains trend data for all graduate institutions for the period 1982-90; subsection C contains trend statistics for doctorate-granting institutions only, and subsection D presents similar trend data for master's-granting institutions. Subsection E contains institutional listings in geographic sequence, and subsection F contains rankings of individual institutions on the basis of the fall 1990 data. Section II presents a description of the survey methodology and response analysis. Section III provides a list of the institutions surveyed, by degree level, and Section IV displays copies of the survey instruments, along with summary questionnaire facsimiles. (PR)

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Academic Science and Engineering: Graduate Enrollment and Support, Fall 1990



Surveys of Science Resources Series
National Science Foundation

Detailed Statistical Tables

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Academic Science and Engineering: Graduate Enrollment and Support, Fall 1990

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J. G. Huckenpöhler

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DATA SUMMARY

- o Total graduate enrollment in the science, engineering, and health fields reached nearly 459,000 in fall 1990, the largest single-year increase in recent years--more than 4 percent over the fall 1989 total. The increase was sharpest in the health fields, more than 6 percent, compared to a 4-percent growth in both science fields and engineering fields.
 - o Psychology students increased the most rapidly of those in any science field, 6 percent. Growth was slowest in the agricultural sciences, just over 1 percent. The social sciences continued to be the most popular field, with 78,600 graduate students or more than one-sixth of the total. Nearly one-third of the engineering graduate students, 34,900, were enrolled in electrical engineering.
 - o The number of graduate students enrolled part time increased at a more rapid rate than did the number enrolled full time, 6 percent compared to just over 3 percent. Part-time students made up about one-third of all S&E graduate students.
 - o Enrollment in doctorate-granting institutions, at 398,400, represented 87 percent of all graduate students. This proportion has varied only slightly since the survey series began in 1975.
-



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The fall 1990 survey was conducted by Quantum Research Corporation (QRC) of Bethesda, Maryland, under NSF contract number SRS-91-00714. QRC staff members who worked on this project were Barbara K. DePaul, M. A. Holubek, Terrey Kline, Pamela G. Krones, George J. Nozicka, Carlos Reyes, and Stève Toléqué.

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General Notes

The data presented in this report were collected in the 19th annual National Science Foundation (NSF) and National Institutes of Health (NIH) Survey of Graduate Students and Postdoctorates in Science and Engineering of 1990. The survey universe was composed of all institutions in the United States with departments or programs offering courses of study at the postbaccalaureate level in any science or engineering field. Medical schools and other specialized institutions offering first-professional doctorates in health-related fields were also included. The 1990 survey universe included 334 doctorate-granting institutions and 276 master's-granting institutions.

Section I, subsection A, presents national totals for all institutions, both doctorate- and master's-granting, for fall 1990 (academic year 1990/91). **Subsection B** contains trend data for all graduate institutions for the period 1982-90; **subsection C** contains trend statistics for doctorate-granting institutions only, and **subsection D** presents similar trend data for master's-granting institutions. **Subsection E** contains institutional listings in geographic sequence, and **subsection F** contains rankings of individual institutions on the basis of fall 1990 data.

Section II presents a description of the survey methodology and response analysis; **section III** lists the institutions surveyed, by degree level, along with their identifying Federal Interagency Committee on Education (FICE) codes.

Section IV displays copies of the survey instruments, along with summary questionnaire facsimiles containing data for all departments or for selected groups of departments. The facsimiles present data for all institutions, doctorate-granting institutions, master's-granting institutions, and other selected groups of institutions.

Tables showing data for doctorate-granting institutions include all institutions with any component (medical school, dental school, etc.) or branch campus that granted S&E doctorates (including first-professional doctorates in health-related fields) for all years in which such degrees were offered. This definition differs from that used by the National Center for Education Statistics (NCES); NCES considers only those institutions that granted "significant numbers" of doctoral degrees as doctorate-granting.

Data Limitations

In any analysis of the data in this report, the following definitions and limitations should be kept in mind:

- o In tables showing full-time graduate enrollment by source of support, "institutional support" includes those students receiving their primary support from State and local government sources as well as from their institutions.

- o "Other U.S. sources" include students supported by industrial firms, nonprofit institutions (independent research institutes, professional societies, philanthropic foundations, etc.), and all other sources of support originating within the United States. Students supported primarily by foreign industrial firms, as well as by foreign governments, are reported under "foreign sources."
- o "Imputation," as defined by NSF, denotes a computerized process by which estimates for totally or partially nonrespondent institutions are generated on the basis of their own data for earlier years, if available, or data from peer institutions. Data may be imputed for an entire institution, for a department, or for individual items or cells within items for which the institution or department was unable to provide actual data. The imputation procedures are described in detail in section I, Technical Notes.
- o Respondent institutions may revise prior-year data as well as current data during the editing process. Consequently, only the trend data from the current report should be used in historical analyses.

Data Availability

Because of the large number of tables generated on the basis of graduate S&E enrollment data--over 720 in 1990--, it is not feasible to include the full set of tables in a general-audience publication such as this. To meet the needs of those interested in more detailed data of specific types, NSF has developed a series of "Specialized Pamphlets" focusing on various aspects of the data. There are 16 such pamphlets available; these are listed on the order blank provided at the back of this book for the convenience of those wishing to order one or more of these pamphlets.

Data published in this report are also available on diskettes and in machine-readable form on magnetic tapes. Single- or multi-year data tapes are available containing data for fall 1975 through fall 1990. Information on tape formats and the years for which they are available, together with prices and instructions for ordering, are contained in the current data user guide, *Guide to the National Science Foundation's Surveys of Academic Science and Engineering*. To obtain a copy of the guide, contact J. G. Huckenpöhler, who can also supply further information on the Survey of Graduate Students and Postdoctorates in Science and Engineering:

Science and Engineering Education and Human Resources Program
 Room L-609, Attn. J. G. Huckenpöhler
 National Science Foundation
 1800 G Street, N.W.
 Washington, D.C. 20550
 (202) 634-4787

Selected data items for individual doctorate-granting institutions are available on computer-generated Institutional Profiles. These profiles cover data from this survey as well as

data collected in NSF's other academic S&E surveys covering R&D expenditures and Federal support to academic institutions. Institutional Profiles for any institution or group of institutions may be ordered by FICE code (listed in section III) through Richard Bennof:

Science and Engineering Activities Program
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Institution planners can now obtain data from several academic S&E resources on CD-ROM compact disc. The compact disc contains the Computer-Aided Science Policy Analysis and Research (CASPAR) database system, which is an easy-to-use tool for the retrieval and analysis of statistical data on academic S&E resources. CASPAR provides an extensive and growing data library with multi-year statistics on the state of higher education in general, and on academic S&E resources specifically. This data library is based on a set of standardized institutional and field of science definitions across the multiple sources used to develop the database. The CASPAR program includes built-in help capabilities to facilitate the use and interpretation of the data.

CASPAR data are drawn from a number of sources. All data are available for individual institutions, by State, and at the national level. Longitudinal data from surveys of universities and colleges conducted by the NSF Division of Science Resources Studies include the R&D Expenditures Survey and the Federal Support Survey in addition to the Graduate Student Survey. Data from the surveys of universities and colleges conducted by NCES include Earned Degrees, Opening Fall Enrollment, Faculty Salaries, Tenure and Fringe Benefits, and Financial Statistics. Data from other sources include the National Research Council Doctorate Program Ratings. For additional information on CASPAR, contact

Quantum Research Corporation
Attn: CASPAR
7315 Wisconsin Avenue, Suite 631 W
Bethesda, MD 20814

Section I

Detailed Statistical Tables

To obtain accurate historical data, use only the latest detailed statistical tables for fall 1990 and not data published earlier. Institutions often revise prior-year data when important changes occur in reporting practices and program classifications, and only the latest tables incorporate such changes.

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Field	In all institutions			Doctorate-granting			Master's-granting		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total, all surveyed fields	458,943	295,836	163,107	398,405	275,262	123,143	60,538	20,574	39,964
Total, science/engineering fields	401,569	267,621	133,948	350,013	250,013	100,000	51,556	17,608	33,948
Engineering, total	109,299	66,547	42,752	100,253	64,169	36,084	9,046	2,378	6,668
Aerospace	4,006	3,010	996	3,915	2,946	969	91	64	27
Agricultural	939	793	146	939	793	146	0	0	0
Biomedical	2,130	1,798	332	2,067	1,761	306	63	37	26
Chemical	6,734	5,453	1,281	6,618	5,420	1,198	116	33	83
Civil	13,891	10,445	3,446	14,773	10,164	4,609	1,118	281	837
Electrical	33,887	18,710	15,177	30,453	17,879	12,574	3,434	831	2,603
Engineering science	2,547	1,332	1,215	2,529	1,321	1,208	18	11	7
Industrial	11,816	4,966	6,850	10,288	4,543	5,745	1,528	423	1,105
Mechanical	16,879	10,843	6,036	15,511	10,505	5,006	1,368	338	1,030
Metallurgical/materials	4,822	3,848	974	4,684	3,824	860	138	28	114
Mining	437	334	103	409	306	103	28	0	0
Nuclear	1,278	1,080	198	1,278	1,080	198	0	0	0
Petroleum	670	484	186	656	475	181	14	9	5
Engineering, n.e.c.	7,263	3,451	3,812	6,133	3,152	2,981	1,130	299	831
Sciences, total	292,270	201,074	91,196	249,760	185,844	63,916	42,510	15,230	27,280
Physical sciences	34,337	29,573	4,764	32,504	28,845	3,659	1,833	728	1,105
Astronomy	811	790	21	811	790	21	0	0	0
Chemistry	19,142	16,390	2,752	18,059	15,988	2,071	1,083	402	681
Physics	13,985	12,222	1,763	13,392	11,931	1,461	593	291	302
Physical sciences, n.e.c.	399	171	228	242	136	106	157	35	122
Earth, atmospheric, and ocean sciences	14,159	10,295	3,864	12,866	9,848	3,018	1,293	447	846
Atmospheric sciences	929	828	101	925	828	97	4	0	4
Geosciences	7,742	5,808	1,934	7,199	5,574	1,625	543	234	309
Oceanography	2,252	1,853	399	2,117	1,798	319	135	55	80
Earth, atmos., and ocean sci., n.e.c.	3,236	1,806	1,430	2,625	1,648	977	611	158	453
Mathematical sciences	19,884	13,870	6,014	17,297	13,202	4,095	2,587	668	1,919
Computer sciences	34,507	16,872	17,635	27,667	14,701	12,966	6,840	2,171	4,669
Agricultural sciences	11,183	8,961	2,222	10,445	8,552	1,893	738	409	329
Biological sciences	50,921	41,685	9,236	47,054	40,132	6,922	3,867	1,553	2,314
Anatomy	9,011	822	89	1,011	922	89	0	0	0
Biochemistry	4,933	4,936	217	5,119	4,921	198	34	15	19
Biology	13,258	9,340	3,918	10,285	8,109	2,176	2,973	1,231	1,742
Biometry/epidemiology	1,966	1,264	702	1,966	1,264	702	0	0	0
Biophysics	642	605	37	642	605	37	0	0	0
Botany	2,884	2,471	413	2,833	2,428	405	51	43	8
Cell biology	2,592	2,515	77	2,592	2,515	77	0	0	0
Ecology	1,177	890	287	1,083	884	199	94	6	88
Entomology/parasitology	1,194	1,015	179	1,194	1,015	179	0	0	0
Genetics	1,408	1,317	91	1,364	1,275	89	44	42	2
Microbiology	4,874	4,365	509	4,812	4,351	461	62	14	48
Nutrition	4,259	3,920	1,339	3,951	2,813	1,138	308	107	201
Pathology	1,424	1,144	280	1,357	1,116	241	67	28	39
Pharmacology	2,438	2,294	144	2,438	2,294	144	0	0	0
Physiology	2,276	2,116	160	2,276	2,116	160	0	0	0
Zoology	2,110	1,683	427	2,097	1,677	420	13	6	7
Biosciences, n.e.c.	2,255	1,888	367	2,034	1,827	207	221	61	160
Psychology	48,659	30,992	17,667	34,685	24,930	9,755	13,974	6,062	7,912
Social sciences	78,620	48,826	29,794	67,242	45,634	21,608	11,378	3,192	8,186
Agricultural economics	2,273	1,961	312	2,232	1,934	298	41	27	14
Anthropology	6,494	4,741	1,753	6,244	4,658	1,586	250	83	167
Economics (except agricultural)	12,432	9,346	3,086	11,668	9,073	2,595	764	273	491
Geography	3,618	2,429	1,189	2,938	2,191	747	680	238	442
History and philosophy of science	370	340	30	370	340	30	0	0	0
Linguistics	3,533	2,586	947	3,049	2,536	513	484	50	434
Political science	30,698	15,472	15,226	24,414	13,830	10,584	6,284	1,642	4,642
Sociology	7,756	5,679	2,077	6,940	5,336	1,604	816	343	473
Sociology/anthropology	1,212	782	430	1,125	744	381	87	38	49
Social sciences, n.e.c.	10,234	5,490	4,744	8,262	4,992	3,270	1,972	498	1,474
Total, health fields	57,374	28,215	29,159	48,392	25,249	23,143	8,982	2,966	6,016
Dentistry	969	840	129	969	840	129	0	0	0
Neurology	810	788	22	790	778	12	20	10	10
Nursing	21,320	6,126	15,194	18,242	5,444	12,798	3,078	682	2,396
Pharmaceutical sciences	2,963	2,137	826	2,961	2,137	824	2	0	2
Preventive medicine/community health	8,261	4,500	3,761	8,073	4,442	3,631	188	58	130
Speech pathology/audiology	8,608	5,840	2,768	6,441	4,596	1,845	2,167	1,244	923
Veterinary sciences	900	709	191	881	698	183	19	11	8
Clinical medicine, n.e.c.	1,839	1,431	408	1,673	1,384	289	166	47	119
Health related, n.e.c.	11,704	5,844	5,860	8,362	4,930	3,432	3,342	914	2,428

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-2. Science and engineering graduate students by field, sex, and level of department, in all institutions according to control: 1990

Field	Total	Control		Sex		Level of department	
		Public	Private	Men	Women	Doctorate 1/	Masters
Total, all surveyed fields	458,943	321,472	137,471	279,492	179,451	325,298	133,645
Total, science/engineering fields	401,569	279,622	121,947	266,292	135,277	297,815	103,754
Engineering, total	109,299	75,383	33,916	94,338	14,961	87,367	21,932
Aerospace	4,006	3,054	952	3,714	292	3,540	466
Agricultural	939	891	48	838	101	860	79
Biomedical	2,130	1,278	852	1,587	543	1,958	172
Chemical	2,734	4,844	1,890	5,590	1,144	6,377	357
Civil	15,891	12,037	3,854	13,105	2,786	12,503	3,388
Electrical	33,887	21,197	12,690	30,107	3,780	27,854	6,033
Engineering science	2,547	1,679	868	2,195	352	1,598	949
Industrial	11,816	7,544	4,272	9,569	2,247	6,364	5,452
Mechanical	16,879	11,710	5,169	15,419	1,460	14,463	2,416
Metallurgical/materials	4,822	3,124	1,698	3,978	844	4,558	264
Mining	437	361	76	379	58	429	148
Nuclear	1,278	1,073	205	1,123	155	1,231	47
Petroleum	670	539	131	637	33	589	81
Engineering, n.e.c.	7,263	6,052	1,211	6,097	1,166	5,183	2,080
Sciences, total	292,270	204,239	88,031	171,954	120,316	210,448	81,822
Physical sciences	34,337	24,900	9,437	26,223	8,114	30,817	3,520
Astronomy	811	536	275	646	165	791	20
Chemistry	19,142	13,848	5,294	13,280	5,862	17,287	1,855
Physics	13,985	10,138	3,847	12,047	1,938	12,673	1,312
Physical sciences, n.e.c.	399	378	21	250	149	66	333
Earth, atmospheric, and ocean sciences	14,159	11,855	2,304	9,994	4,165	10,913	3,246
Atmospheric sciences	929	901	28	744	185	868	61
Geosciences	7,742	6,364	1,378	5,798	1,944	6,080	1,662
Oceanography	2,252	1,892	360	1,500	752	2,094	158
Earth, atmos., and ocean sci., n.e.c.	3,236	2,698	538	1,952	1,284	1,871	1,365
Mathematical sciences	19,884	15,616	4,268	13,646	6,238	14,505	5,379
Computer sciences	34,507	20,312	14,195	26,316	8,191	20,282	14,225
Agricultural sciences	11,183	10,810	373	7,865	3,318	9,023	2,160
Biological sciences	50,921	37,494	13,427	27,502	23,419	43,506	7,415
Anatomy	1,011	726	285	554	457	978	33
Biochemistry	3,153	3,512	1,641	3,029	2,124	5,090	63
Biology	13,258	9,710	3,548	7,648	6,010	8,490	4,768
Biometry/epidemiology	1,966	1,851	801	904	1,062	1,826	140
Biophysics	642	356	286	478	164	642	0
Botany	2,884	2,602	282	1,752	1,132	2,731	153
Cell biology	2,592	1,472	1,120	1,460	1,132	2,527	65
Ecology	1,177	1,030	147	688	489	1,019	158
Entomology/parasitology	1,194	1,126	68	832	362	1,152	42
Genetics	1,408	998	410	681	727	1,345	66
Microbiology	4,874	3,642	1,232	2,554	2,320	4,691	183
Nutrition	4,259	3,545	714	1,282	2,977	3,998	961
Pathology	1,424	978	446	814	610	1,190	234
Pharmacology	2,438	1,718	720	1,378	1,060	2,433	5
Physiology	2,276	1,538	738	1,327	949	2,149	127
Zoology	2,110	1,976	134	1,274	836	2,059	51
Biosciences, n.e.c.	2,255	1,400	855	1,247	1,008	1,889	366
Psychology	48,659	28,050	20,609	15,963	32,696	30,842	17,817
Social sciences	78,620	55,202	23,418	44,445	34,175	50,560	28,060
Agricultural economics	2,273	2,158	115	1,674	599	1,976	297
Anthropology	6,494	4,752	1,742	2,680	3,814	5,409	1,085
Economics (except agricultural)	12,432	8,016	4,416	9,013	3,419	10,328	2,104
Geography	3,618	3,431	187	2,377	1,241	2,077	1,541
History and philosophy of science	370	206	164	236	134	368	2
Linguistics	3,533	2,523	1,010	1,422	2,111	2,455	1,078
Political science	30,698	20,114	10,584	17,518	13,180	16,150	14,548
Sociology	7,756	5,878	1,878	3,484	4,272	6,136	1,620
Sociology/anthropology	1,212	860	352	506	706	775	437
Social sciences, n.e.c.	10,234	7,264	2,970	5,535	4,699	4,886	5,348
Total, health fields	57,374	41,850	15,524	13,200	44,174	27,483	29,891
Dentistry	969	759	210	684	285	134	835
Neurology	810	456	354	454	356	809	1
Nursing	21,320	15,996	5,324	1,054	20,266	10,261	11,059
Pharmaceutical sciences	2,963	2,182	781	1,789	1,174	2,473	490
Preventive medicine/community health	8,261	5,747	2,514	3,214	5,047	5,617	2,644
Speech pathology/audiology	8,608	7,278	1,330	801	7,807	3,728	5,330
Veterinary sciences	900	821	79	512	388	729	171
Clinical medicine, n.e.c.	1,839	1,239	600	955	880	1,017	822
Health related, n.e.c.	11,704	7,372	4,332	3,733	7,971	3,165	8,539

1/ Includes all students enrolled in doctorate-level departments

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-3. Science and engineering graduate students in all institutions by field and citizenship, and by racial/ethnic background of U.S. citizens: 1990

Field	Total	Racial/ethnic background of U.S. citizens						Non-U.S. citizens
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Total, all surveyed fields	458,943	15,473	1,270	19,195	12,569	285,997	17,675	106,764
Total, science/engineering fields	401,569	12,891	1,048	17,474	10,502	241,210	15,985	102,459
Engineering, total	109,299	1,810	157	6,775	1,955	54,341	6,134	38,127
Aerospace	4,006	38	6	169	51	2,341	215	1,186
Agricultural	939	4	1	23	17	383	5	506
Biomedical	2,130	30	2	137	28	1,222	35	676
Chemical	6,734	84	5	343	149	3,163	72	2,918
Civil	15,891	237	38	779	322	7,851	643	6,021
Electrical	33,887	610	49	3,009	578	15,728	2,368	11,545
Engineering science	2,547	35	6	141	17	1,599	54	695
Industrial	11,816	308	24	459	271	6,773	837	3,144
Mechanical	16,879	246	15	803	278	8,291	1,189	6,057
Metallurgical/materials	4,822	53	2	273	73	2,274	151	1,996
Mining	437	2	0	16	3	172	6	238
Nuclear	1,278	7	2	27	24	672	10	536
Petroleum	670	6	0	18	11	265	3	367
Engineering, n.e.c.	7,263	150	7	578	133	3,607	546	2,242
Sciences, total	292,270	11,081	891	10,699	8,547	186,869	9,851	64,332
Physical sciences	34,337	653	63	1,217	641	18,570	682	12,511
Astronomy	811	8	2	38	7	549	15	192
Chemistry	19,142	451	44	701	425	10,498	433	6,590
Physics	13,985	177	16	467	202	7,251	214	5,658
Physical sciences, n.e.c.	399	17	1	11	7	272	20	71
Earth, atmospheric, and ocean sciences	14,159	125	30	267	241	10,476	303	2,717
Atmospheric sciences	299	9	0	26	9	297	7	281
Geosciences	7,762	52	21	116	129	5,755	155	1,814
Oceanography	2,252	21	1	40	60	1,551	36	343
Earth, atmos., and ocean sci., n.e.c.	3,236	43	8	85	43	2,573	105	379
Mathematical sciences	19,884	512	20	900	370	10,705	936	6,441
Computer sciences	34,507	984	42	2,864	566	17,436	1,886	10,729
Agricultural sciences	11,183	178	20	271	293	7,163	271	2,987
Biological sciences	50,921	1,263	137	2,314	1,237	33,180	1,064	11,726
Anatomy	1,011	25	1	64	16	677	8	220
Biochemistry	5,153	76	6	294	89	2,980	37	1,671
Biology	13,258	427	33	547	452	9,202	518	2,079
Biometry/epidemiology	1,966	76	2	86	73	1,311	6	412
Biophysics	642	5	2	57	7	368	2	201
Botany	2,884	49	7	64	31	1,729	43	961
Cell biology	2,592	34	4	121	88	1,756	34	555
Ecology	1,177	13	3	16	26	889	11	219
Entomology/parasitology	1,194	16	8	43	32	722	28	345
Genetics	1,408	25	1	71	12	988	8	303
Microbiology	4,874	87	20	243	114	3,097	98	1,215
Nutrition	4,259	134	17	174	71	2,574	85	1,204
Pathology	1,424	41	4	66	20	926	49	318
Pharmacology	2,438	76	11	170	55	1,481	40	605
Physiology	2,276	66	5	156	44	1,354	48	603
Zoology	2,110	44	7	36	33	1,633	28	329
Biosciences, n.e.c.	2,255	69	6	106	74	1,493	21	486
Psychology	48,659	2,289	236	964	2,159	39,511	1,660	1,840
Social sciences	78,620	5,077	343	1,902	3,040	49,828	3,049	15,381
Agricultural economics	2,273	47	0	55	90	1,016	14	1,051
Anthropology	6,494	128	66	114	173	4,943	285	785
Economics (except agricultural)	12,432	329	68	410	251	5,570	520	5,284
Geography	3,618	71	12	74	61	2,745	150	505
History and philosophy of science	370	6	1	8	5	298	8	44
Linguistics	3,533	162	8	81	154	1,837	68	1,223
Political science	30,698	2,650	92	711	1,349	21,084	1,388	3,424
Sociology	7,756	573	45	225	291	4,789	214	1,619
Sociology/anthropology	1,212	118	5	9	26	837	33	184
Social sciences, n.e.c.	10,234	993	46	215	640	6,709	369	1,262
Total, health fields	57,374	2,582	222	1,721	2,067	44,787	1,690	4,305
Dentistry	969	23	3	62	25	623	40	233
Neurology	810	9	1	50	19	588	6	137
Nursing	21,320	1,011	93	449	512	18,444	503	308
Pharmaceutical sciences	8,963	116	2	185	71	1,372	141	1,076
Preventive medicine/community health	8,261	491	37	378	676	5,293	182	1,204
Speech pathology/audiology	8,608	387	34	141	284	7,079	316	567
Veterinary sciences	900	61	2	20	11	576	29	221
Clinical medicine, n.e.c.	1,839	50	6	121	46	1,249	68	299
Health related, n.e.c.	11,704	454	44	325	423	9,563	405	490

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-4. Science and engineering graduate students in all institutions by geographic distribution and citizenship, and by racial/ethnic background of U.S. citizens: 1990

Geographic distribution	Total	Racial/ethnic background of U.S. citizens						Non-U.S. citizens
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Total, all institutions	458,943	15,473	1,270	19,195	12,569	285,997	17,675	106,764
New England	34,324	524	60	1,186	438	21,250	2,469	8,397
Connecticut	7,443	131	15	230	89	5,254	301	1,423
Maine	689	3	0	6	2	495	26	157
Massachusetts	22,179	362	39	873	296	12,690	2,018	5,901
New Hampshire	1,175	7	3	26	6	839	88	206
Rhode Island	2,162	16	2	42	33	1,420	36	613
Vermont	676	5	1	9	12	552	0	97
Middle Atlantic	80,827	2,913	109	3,801	1,689	47,929	5,804	18,582
New Jersey	11,674	335	16	1,036	234	6,486	857	2,710
New York	47,648	2,016	62	1,971	1,227	26,713	4,748	10,911
Pennsylvania	21,505	562	31	794	228	14,730	199	4,961
East North Central	81,426	2,737	156	2,779	1,415	51,094	1,912	21,333
Illinois	24,381	1,150	31	1,368	509	14,910	298	6,115
Indiana	9,769	202	23	181	147	6,319	176	2,721
Michigan	16,570	665	53	539	404	9,601	433	4,875
Ohio	20,924	591	20	470	223	13,490	952	5,178
Wisconsin	9,782	129	29	221	132	6,774	53	2,444
West North Central	29,625	451	72	842	288	19,080	927	7,965
Iowa	5,516	75	1	56	35	2,941	245	2,163
Kansas	5,325	73	14	104	59	3,382	269	1,424
Minnesota	6,979	54	13	234	67	4,641	268	1,702
Missouri	7,405	180	27	250	90	5,100	106	1,652
Nebraska	2,519	51	3	88	29	1,772	21	555
North Dakota	886	8	4	37	6	588	15	228
South Dakota	995	10	10	73	2	656	3	241
South Atlantic	68,623	4,132	146	2,200	1,460	45,106	1,236	14,343
Delaware	1,378	62	1	18	8	881	2	406
District of Columbia	8,208	801	16	318	165	4,615	563	2,030
Florida	13,260	668	43	317	750	8,612	306	2,864
Georgia	8,169	762	29	226	153	5,197	49	1,777
Maryland	9,827	567	29	432	125	6,234	93	2,367
North Carolina	9,860	525	33	289	79	7,134	99	1,736
South Carolina	3,679	140	6	83	41	2,434	29	946
Virginia	11,418	555	12	479	129	8,319	94	1,830
West Virginia	2,224	52	1	38	10	1,715	1	407
East South Central	19,511	1,233	44	631	167	13,123	262	4,051
Alabama	6,334	432	5	159	48	4,132	14	1,544
Kentucky	3,916	108	20	178	21	2,891	44	654
Mississippi	2,698	310	2	163	58	1,492	16	657
Tennessee	6,563	383	17	131	40	4,608	188	1,196
West South Central	42,372	1,444	187	1,800	1,502	26,332	453	10,654
Arkansas	1,891	104	6	50	12	1,470	1	248
Louisiana	5,201	382	8	255	70	2,808	129	1,549
Oklahoma	4,668	105	101	88	67	5,739	76	1,492
Texas	30,612	853	72	1,407	1,353	19,313	247	7,365
Mountain	27,519	273	175	709	871	18,773	782	5,936
Arizona	7,552	73	90	153	315	4,684	95	2,142
Colorado	8,554	125	28	281	234	6,358	251	1,277
Idaho	1,560	9	3	29	16	1,186	35	282
Montana	1,084	2	9	9	4	826	15	219
Nevada	1,183	25	1	20	14	677	229	217
New Mexico	2,945	26	28	141	256	1,943	48	503
Utah	3,790	11	12	63	28	2,460	78	1,138
Wyoming	851	2	4	13	4	639	31	158
Pacific	72,177	1,766	321	5,247	2,385	43,284	3,830	15,344
Alaska	680	4	4	18	2	518	32	102
California	59,033	1,636	264	4,523	2,266	34,917	3,424	12,003
Hawaii	1,984	13	8	342	10	808	47	756
Oregon	3,851	28	14	121	24	2,255	124	1,285
Washington	6,629	85	31	243	83	4,786	203	1,198
Outlying areas	2,539	0	0	0	2,354	26	0	159

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-5. Science and engineering graduate students by geographic distribution and enrollment status, in all institutions according to highest degree granted: 1990

Geographic distribution	In all institutions			Doctorate-granting			Master's-granting		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total, all institutions	458,943	295,836	163,107	398,405	275,262	123,143	60,538	20,574	39,964
New England	34,324	22,824	11,500	29,848	21,905	7,943	4,476	919	3,557
Connecticut	7,443	4,188	3,255	4,565	3,650	915	2,878	538	2,340
Maine	689	524	165	689	524	165	0	0	0
Massachusetts	22,179	15,048	7,131	20,868	14,759	6,109	1,311	289	1,022
New Hampshire	1,175	898	277	1,022	883	139	153	15	138
Rhode Island	2,162	1,623	539	2,079	1,597	482	83	26	57
Vermont	676	543	133	625	492	133	51	51	0
Middle Atlantic	80,827	43,972	36,855	70,150	41,436	28,714	10,677	2,536	8,141
New Jersey	11,674	5,549	6,125	10,674	5,351	5,323	1,000	198	802
New York	47,648	25,434	22,214	40,764	24,001	16,763	6,884	1,433	5,451
Pennsylvania	21,505	12,989	8,516	18,712	12,084	6,628	2,793	905	1,888
East North Central	81,426	56,456	24,970	73,564	53,836	19,728	7,862	2,620	5,242
Illinois	24,381	16,330	8,051	20,109	15,094	5,015	4,272	1,236	3,036
Indiana	9,769	7,296	2,473	9,355	7,510	1,845	414	86	328
Michigan	16,570	10,984	5,586	15,204	10,555	4,649	1,366	429	937
Ohio	20,924	14,343	6,581	20,697	14,070	6,627	4,427	273	154
Wisconsin	9,782	7,203	2,579	8,399	6,607	1,792	1,383	596	787
West North Central	29,625	19,647	9,978	26,844	18,514	8,330	2,781	1,133	1,648
Iowa	5,516	4,380	1,136	5,303	4,347	956	213	33	180
Kansas	5,325	4,068	1,257	4,761	3,649	1,112	564	319	245
Minnesota	6,979	5,192	1,787	6,708	5,072	1,636	1,271	456	815
Missouri	7,405	5,149	2,256	6,729	4,736	1,993	676	307	369
Nebraska	2,519	1,516	1,003	2,462	1,498	964	57	18	39
North Dakota	886	755	131	886	755	131	0	0	0
South Dakota	995	687	308	995	687	308	0	0	0
South Atlantic	68,623	42,153	26,470	62,803	40,098	22,705	5,820	2,055	3,765
Delaware	1,378	1,025	353	1,357	1,024	333	21	1	20
District of Columbia	8,508	3,668	4,840	8,409	3,602	4,807	99	66	33
Florida	13,560	7,470	6,090	13,142	7,364	5,778	418	106	312
Georgia	8,169	5,855	2,314	7,375	5,471	1,904	794	384	410
Maryland	9,827	5,474	4,353	7,770	5,044	2,726	2,057	430	1,627
North Carolina	9,860	7,712	2,148	8,611	6,169	2,442	1,249	543	706
South Carolina	3,679	2,578	1,101	3,542	2,502	1,040	137	76	61
Virginia	11,418	7,139	4,279	10,838	6,766	4,072	580	373	207
West Virginia	2,224	1,232	992	1,759	1,156	603	465	76	389
East South Central	19,511	12,134	7,377	16,646	10,780	5,866	2,865	1,354	1,511
Alabama	6,334	3,711	2,623	5,598	3,257	2,341	736	454	282
Kentucky	3,916	2,450	1,466	3,170	2,040	1,130	746	410	336
Mississippi	2,698	2,131	567	2,429	1,975	454	269	156	113
Tennessee	6,563	3,842	2,721	5,449	3,508	1,941	1,114	334	780
West South Central	42,372	26,823	15,549	36,530	24,521	12,009	5,842	2,302	3,540
Arkansas	1,891	1,281	610	1,108	810	298	783	471	312
Louisiana	5,201	3,927	1,274	4,622	3,700	922	579	227	352
Oklahoma	4,668	2,634	2,034	4,453	2,591	1,862	215	43	172
Texas	30,612	18,981	11,631	26,347	17,420	8,927	4,265	1,561	2,704
Mountain	27,519	19,038	8,481	26,474	18,772	7,702	1,045	266	779
Arizona	7,552	5,199	2,353	7,552	5,199	2,353	0	0	0
Colorado	8,554	5,952	2,602	8,067	5,952	2,115	487	0	487
Idaho	1,560	800	760	1,560	800	760	0	0	0
Montana	1,084	920	164	993	831	162	91	89	2
Nevada	1,183	599	584	872	463	409	311	136	175
New Mexico	2,945	2,057	888	2,789	2,016	773	156	41	115
Utah	3,790	2,870	920	3,790	2,870	920	0	0	0
Wyoming	851	641	210	851	641	210	0	0	0
Pacific	72,177	50,970	21,207	53,007	43,581	9,426	19,170	7,389	11,781
Alaska	680	378	302	487	326	161	193	52	141
California	59,033	40,779	18,254	41,150	34,057	7,093	17,883	6,722	11,161
Hawaii	1,984	1,655	329	1,984	1,655	329	0	0	0
Oregon	3,851	3,057	794	3,780	3,029	751	71	28	43
Washington	6,629	5,101	1,528	5,606	4,514	1,092	1,023	587	436
Outlying areas	2,539	1,819	720	2,539	1,819	720	0	0	0

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-6. Full-time science and engineering graduate students by field, level of study, citizenship, and sex, in all institutions according to control: 1990

Field	Total	Level of study		Citizenship		Sex		Control	
		First year	Beyond first year	U.S.	Non-U.S.	Men	Women	Public	Private
Total, all surveyed fields	295,836	88,160	207,676	205,026	90,810	188,420	107,416	212,151	83,685
Total, science/engineering fields	267,621	76,934	190,687	180,360	87,261	180,000	87,621	190,466	77,155
Engineering, total	66,547	20,253	46,294	35,211	31,336	57,726	8,821	48,149	18,398
Aerospace	3,010	933	2,077	1,920	1,090	2,811	199	2,340	670
Agricultural	793	204	589	332	461	710	83	745	48
Biomedical	1,798	476	1,322	1,203	595	1,342	456	1,087	711
Chemical	5,453	1,405	4,048	2,702	2,751	4,257	896	3,894	1,559
Civil	10,445	3,800	6,645	5,585	4,860	8,274	1,871	8,072	2,373
Electrical	18,710	5,745	12,965	9,770	8,940	16,731	1,979	13,063	5,647
Engineering science	1,332	285	1,047	784	548	1,146	186	534	798
Industrial	4,966	1,737	3,229	2,580	2,386	4,022	944	3,288	1,138
Mechanical	10,843	3,267	7,576	5,785	5,058	9,986	857	7,876	2,967
Metallurgical/materials	3,848	892	2,956	2,003	1,845	3,194	654	2,582	1,266
Mining	334	79	255	139	195	287	47	292	42
Nuclear	1,080	294	786	577	503	952	128	886	194
Petroleum	484	112	372	155	329	460	24	386	98
Engineering, n.e.c.	3,451	1,024	2,427	1,676	1,775	2,954	497	2,564	887
Sciences, total	201,074	56,681	144,393	145,149	55,925	122,274	78,800	142,317	58,757
Physical sciences	29,573	6,817	22,756	17,898	11,675	22,728	6,845	21,344	8,229
Astronomy	790	172	618	603	187	629	161	518	272
Chemistry	16,390	3,794	12,596	10,302	6,088	11,638	4,952	11,666	4,624
Physics	12,222	2,789	9,433	6,871	5,351	10,564	1,638	8,690	3,532
Physical sciences, n.e.c.	171	62	109	122	49	97	74	170	1
Earth, atmospheric, and ocean sciences	10,295	2,707	7,588	7,827	2,468	7,345	2,950	8,489	1,806
Atmospheric sciences	828	247	581	564	264	653	175	817	11
Geosciences	5,808	1,374	4,434	4,412	1,396	4,533	1,425	4,589	1,219
Geography	1,853	433	1,420	1,334	519	1,242	611	1,555	598
Earth, atmos., and ocean sci., n.e.c.	1,806	653	1,153	1,517	289	1,067	739	1,528	278
Mathematical sciences	13,870	4,244	9,626	8,076	5,794	9,827	4,043	11,020	2,850
Computer sciences	16,872	5,396	11,476	8,932	7,940	13,372	3,500	11,434	5,438
Agricultural sciences	8,961	2,399	6,562	6,287	2,674	6,352	2,609	8,605	356
Biological sciences	41,685	10,371	31,314	30,850	10,835	23,241	18,444	30,380	11,305
Anatomy	922	204	718	713	209	512	410	661	261
Biochemistry	4,936	1,060	3,876	3,313	1,623	2,906	2,030	3,342	1,694
Biology	9,340	2,530	6,810	7,527	1,813	5,342	3,998	6,687	2,653
Biometry/epidemiology	1,264	458	806	916	348	601	663	738	226
Biophysics	605	129	476	407	198	452	153	324	281
Botany	2,471	539	1,932	1,569	902	1,503	968	2,334	637
Cell biology	2,515	580	1,935	1,973	542	1,414	1,101	1,410	1,105
Ecology	890	187	703	705	185	541	349	827	63
Entomology/parasitology	1,015	221	794	714	301	709	306	949	66
Genetics	1,317	292	1,025	1,024	293	641	676	954	363
Microbiology	4,365	955	3,410	3,229	1,136	2,312	2,053	3,251	1,114
Nutrition	2,920	863	2,057	1,857	1,063	1,001	1,919	2,457	463
Pathology	1,144	259	885	845	299	675	469	796	348
Pharmacology	2,294	553	1,741	1,707	587	1,289	1,005	1,608	686
Physiology	2,116	653	1,463	1,535	581	1,250	866	1,407	709
Zoology	1,683	408	1,275	1,398	285	1,008	675	1,567	116
Biosciences, n.e.c.	1,888	480	1,408	1,418	470	1,085	803	1,168	720
Psychology	30,992	8,800	22,192	29,494	1,498	10,757	20,235	18,208	12,784
Social sciences	48,826	15,947	32,879	35,785	13,041	28,652	20,174	32,837	15,989
Agricultural economics	1,961	609	1,352	1,031	930	1,442	519	1,846	115
Anthropology	4,741	1,133	3,608	4,053	688	2,016	2,725	3,254	1,487
Economics (except agricultural)	9,346	2,836	6,510	4,719	4,627	6,873	2,473	5,904	3,442
Geography	2,429	783	1,646	1,991	438	1,617	812	2,260	169
History and philosophy of science	340	77	263	296	44	220	120	180	160
Linguistics	2,586	712	1,874	1,520	1,066	1,142	1,444	1,757	829
Political science	15,472	5,866	9,606	12,760	2,712	9,368	6,104	9,138	6,334
Sociology	5,679	1,523	4,156	4,314	1,365	2,633	3,046	4,174	1,505
Sociology/anthropology	782	247	535	639	143	327	455	597	185
Social sciences, n.e.c.	5,490	2,161	3,329	4,462	1,028	3,014	2,476	3,727	1,763
Total, health fields	28,215	11,226	16,989	24,666	3,549	8,420	19,795	21,685	6,530
Dentistry	840	337	503	658	182	597	243	668	172
Neurology	788	194	594	654	134	446	342	444	344
Nursing	6,126	2,224	3,902	5,929	197	405	5,721	4,883	1,643
Pharmaceutical sciences	2,137	565	1,572	1,203	934	1,307	830	1,763	374
Preventive medicine/community health ...	4,500	2,161	2,339	3,525	975	1,861	2,639	3,358	1,142
Speech pathology/audiology	5,840	2,503	3,337	5,542	298	544	5,296	5,135	705
Veterinary sciences	709	174	535	508	201	415	294	638	71
Clinical medicine, n.e.c.	1,431	533	898	1,161	270	804	627	937	494
Health related, n.e.c.	5,844	2,535	3,309	5,486	358	2,041	3,803	3,859	1,985

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-7. Full-time science and engineering graduate students in all institutions, by field and citizenship, and by racial/ethnic background of U.S. citizens: 1990

Field	Total	Racial/ethnic background of U.S. citizens						Non-U.S. citizens
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Total, all surveyed fields	295,836	8,249	768	12,106	7,833	168,373	7,697	90,810
Total, science/engineering fields	267,621	7,122	657	11,020	6,597	147,876	7,088	87,261
Engineering, total	66,547	961	66	3,690	1,109	27,153	2,232	31,336
Aerospace	3,010	31	3	113	35	1,612	126	1,090
Agricultural	793	3	1	22	15	288	3	461
Biomedical	1,798	23	2	116	21	1,010	31	595
Chemical	5,453	65	1	263	118	2,211	44	2,751
Civil	10,445	125	18	442	202	4,525	273	4,860
Electrical	18,710	324	18	1,533	294	6,879	722	8,940
Engineering science	1,332	7	1	51	10	683	32	548
Industrial	4,966	119	7	184	115	1,921	234	2,386
Mechanical	10,843	151	6	469	158	4,457	544	5,058
Metallurgical/materials	3,848	45	2	228	62	1,613	53	1,845
Mining	334	2	0	14	3	116	4	195
Nuclear	1,080	5	2	25	19	516	10	503
Petroleum	484	3	0	11	9	129	3	329
Engineering, n.e.c.	3,451	58	5	219	48	1,193	153	1,775
Sciences, total	201,074	6,161	591	7,330	5,488	120,723	4,856	55,925
Physical sciences	29,573	482	56	1,038	529	15,415	378	11,675
Astronomy	790	7	2	38	7	534	15	187
Chemistry	16,390	320	40	581	350	8,795	216	6,088
Physics	12,222	147	14	408	169	5,998	135	5,351
Physical sciences, n.e.c.	171	8	0	11	3	88	12	49
Earth, atmospheric, and ocean sciences	10,295	88	25	197	187	7,134	196	2,468
Atmospheric sciences	828	8	0	25	8	517	6	264
Geosciences	5,808	39	17	98	100	4,063	95	1,396
Oceanography	1,853	14	1	32	57	1,204	26	519
Earth, atmos., and ocean sci., n.e.c.	1,806	27	7	42	22	1,350	69	289
Mathematical sciences	13,870	264	13	571	263	6,531	434	5,794
Computer sciences	16,872	366	18	1,204	191	6,464	689	7,940
Agricultural sciences	8,961	154	17	241	262	5,449	164	2,674
Biological sciences	41,685	943	109	2,019	978	26,144	657	10,835
Anatomy	922	23	1	59	15	607	8	209
Biochemistry	4,936	70	5	283	80	2,843	32	1,623
Biology	9,340	277	21	428	317	6,265	219	1,813
Biometry/epidemiology	1,264	53	2	61	54	742	4	348
Biophysics	605	5	2	54	7	337	2	198
Botany	2,471	26	5	61	25	1,419	33	902
Cell biology	2,515	33	4	119	83	1,702	32	542
Ecology	890	8	3	12	21	653	8	185
Entomology/parasitology	1,015	16	8	41	26	598	25	301
Genetics	1,317	20	1	64	11	922	6	293
Microbiology	4,365	78	19	229	107	2,720	76	1,136
Nutrition	2,920	79	10	117	35	1,556	60	1,063
Pathology	1,144	25	4	56	15	713	32	299
Pharmacology	2,294	71	11	160	55	1,371	39	587
Physiology	2,116	64	5	151	41	1,230	44	581
Zoology	1,683	35	4	32	30	1,275	22	285
Biosciences, n.e.c.	1,888	60	4	92	56	1,191	15	470
Psychology	30,992	1,291	151	729	1,414	25,006	903	1,498
Social sciences	48,826	2,573	202	1,331	1,664	28,580	1,435	13,041
Agricultural economics	1,961	41	0	51	88	838	13	930
Anthropology	4,741	106	51	92	135	3,552	117	688
Economics (except agricultural)	9,346	194	27	305	182	3,801	210	4,627
Geography	2,429	46	9	56	44	1,738	98	438
History and philosophy of science	340	5	1	7	5	270	8	44
Linguistics	2,586	68	7	68	86	1,268	23	1,066
Political science	15,472	1,145	43	418	591	9,878	685	2,712
Sociology	5,679	380	35	181	207	3,406	105	1,365
Sociology/anthropology	782	78	4	7	20	509	21	143
Social sciences, n.e.c.	5,490	510	25	146	306	3,320	155	1,028
Total health fields	28,215	1,127	111	1,086	1,236	20,497	609	3,549
Dentistry	840	21	3	47	19	228	40	182
Neurology	788	9	1	49	19	570	6	134
Nursing	6,126	295	28	182	255	5,038	131	197
Pharmaceutical sciences	2,137	64	1	148	36	897	57	934
Preventive medicine/community health	4,500	262	24	224	386	2,869	60	975
Speech pathology/audiology	5,840	224	22	108	194	4,852	142	298
Veterinary sciences	709	27	2	20	9	431	19	201
Clinical medicine, n.e.c.	1,431	32	6	105	36	925	57	270
Health related, n.e.c.	5,844	193	24	203	282	4,687	97	358

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-8. Full-time science and engineering graduate students in all institutions by geographic distribution and citizenship, and by racial/ethnic background of U.S. citizens: 1990

Geographic distribution	Total	Racial/ethnic background of U.S. citizens						Non-U.S. citizens
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Total, all institutions	295,836	8,249	768	12,106	7,833	168,373	7,697	90,810
New England	22,824	368	50	924	322	12,555	1,043	7,562
Connecticut	4,188	73	13	160	54	2,501	88	1,299
Maine	524	3	0	6	1	341	18	155
Massachusetts	15,048	274	32	693	226	7,717	881	5,225
New Hampshire	898	2	2	20	5	630	38	201
Rhode Island	1,623	13	2	37	27	935	18	591
Vermont	543	3	1	8	9	431	0	91
Middle Atlantic	43,972	1,209	53	2,017	860	22,947	1,799	15,087
New Jersey	5,549	82	8	470	104	2,586	341	1,958
New York	25,434	796	30	1,035	577	12,765	1,387	8,844
Pennsylvania	12,989	331	15	512	179	7,596	71	4,285
East North Central	56,456	1,446	112	1,872	893	32,356	748	19,029
Illinois	16,330	451	24	863	266	9,154	126	5,446
Indiana	7,596	114	18	154	115	4,536	45	2,614
Michigan	10,984	408	28	334	243	5,747	235	3,989
Ohio	16,343	380	17	336	160	8,434	306	4,710
Wisconsin	7,203	93	25	185	109	4,485	36	2,270
West North Central	19,647	294	40	617	208	10,975	610	6,903
Iowa	4,380	70	0	48	30	2,059	204	1,969
Kansas	2,968	45	5	49	27	1,602	138	1,102
Minnesota	5,192	41	9	217	60	3,087	184	1,594
Missouri	4,149	93	15	142	56	2,483	52	1,308
Nebraska	1,516	34	3	60	27	870	14	509
North Dakota	755	6	3	32	6	479	15	214
South Dakota	687	5	6	69	2	395	3	207
South Atlantic	42,153	2,288	93	1,345	791	25,766	397	11,473
Delaware	1,025	49	1	15	6	586	0	368
District of Columbia	3,668	340	2	123	69	1,825	149	1,160
Florida	7,470	375	23	158	350	4,280	55	2,229
Georgia	5,855	468	4	167	112	3,556	29	1,519
Maryland	5,474	247	28	290	76	2,914	34	1,885
North Carolina	7,712	361	27	227	67	5,391	45	1,594
South Carolina	2,578	82	2	66	31	1,558	23	816
Virginia	7,139	337	6	282	76	4,811	62	1,565
West Virginia	1,232	29	0	17	4	845	0	337
East South Central	12,134	727	25	455	120	7,119	159	3,529
Alabama	3,711	243	1	92	29	2,036	7	1,303
Kentucky	2,450	56	11	137	11	1,585	43	607
Mississippi	2,131	219	2	136	56	1,072	16	630
Tennessee	3,842	209	11	90	24	2,426	93	989
West South Central	26,823	685	94	1,046	844	14,779	272	9,103
Arkansas	1,281	61	4	45	5	931	0	235
Louisiana	3,927	165	5	220	60	1,929	103	1,445
Oklahoma	2,634	61	43	44	46	1,430	37	973
Texas	18,981	398	42	737	733	10,489	132	6,450
Mountain	19,038	159	108	504	592	12,200	471	5,004
Arizona	5,199	50	51	100	202	2,967	80	1,749
Colorado	5,952	76	20	185	172	4,262	145	1,092
Idaho	800	0	1	16	6	553	14	210
Montana	920	1	6	8	7	691	7	503
Nevada	599	8	1	9	6	342	101	132
New Mexico	2,057	16	17	128	179	1,258	33	426
Utah	2,870	6	9	49	21	1,684	61	1,040
Wyoming	641	2	3	9	2	443	30	152
Pacific	50,970	1,073	193	3,326	1,565	29,650	2,198	12,965
Alaska	378	0	3	11	1	262	22	79
California	40,779	991	151	2,817	1,469	23,473	1,939	9,939
Hawaii	1,655	11	5	224	8	659	37	711
Oregon	3,057	15	10	87	21	1,665	84	1,175
Washington	5,101	56	24	187	66	3,591	116	1,061
Outlying areas	1,819	0	0	0	1,638	26	0	155

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-9. Part-time science and engineering graduate students by field and sex in all institutions according to control: 1990

Field	Total	Sex		Control	
		Men	Women	Public	Private
Total, all surveyed fields	163,107	91,072	72,035	109,321	53,786
Total, science/engineering fields	133,948	86,292	47,656	89,156	44,792
Engineering, total	42,752	36,612	6,140	27,234	15,518
Aerospace	996	903	93	914	282
Agricultural	146	128	18	146	0
Biomedical	332	245	87	191	141
Chemical	1,281	1,033	248	950	331
Civil	5,446	4,531	915	3,965	1,481
Electrical	15,177	13,376	1,801	8,134	7,043
Engineering science	1,215	1,049	166	1,145	70
Industrial	6,850	5,547	1,303	3,716	3,134
Mechanical	6,036	5,433	603	3,834	2,202
Metallurgical/materials	6,974	5,784	190	542	432
Mining	103	92	11	60	34
Nuclear	198	171	27	187	11
Petroleum	186	177	9	153	33
Engineering, n.e.c.	3,812	3,143	669	3,488	324
Sciences, total	91,196	49,680	41,516	61,922	29,274
Physical sciences	4,764	3,495	1,269	3,556	1,208
Astronomy	21	17	4	18	3
Chemistry	2,752	1,842	910	1,882	870
Physics	1,763	1,483	280	1,448	315
Physical sciences, n.e.c.	228	153	75	208	20
Earth, atmospheric, and ocean sciences	3,864	2,649	1,215	3,366	498
Atmospheric sciences	101	91	10	84	17
Geosciences	1,934	1,415	519	1,775	159
Oceanography	399	258	141	337	62
Earth, atmos., and ocean sci., n.e.c.	1,430	885	545	1,170	260
Mathematical sciences	6,014	3,819	2,195	4,596	1,418
Computer sciences	17,635	12,944	4,691	8,878	8,757
Agricultural sciences	2,222	1,513	709	2,205	17
Biological sciences	9,236	4,261	4,975	7,114	2,122
Anatomy	89	42	47	65	24
Biochemistry	217	123	94	170	47
Biology	3,918	1,906	2,012	3,023	895
Biometry/epidemiology	702	303	399	427	275
Biophysics	37	26	11	32	5
Botany	413	249	164	368	45
Cell biology	37	46	31	62	15
Ecology	287	147	140	203	84
Entomology/parasitology	179	123	56	177	2
Genetics	91	40	51	44	47
Microbiology	509	242	267	391	118
Nutrition	1,339	281	1,058	1,088	251
Pathology	280	139	141	182	98
Pharmacology	144	89	55	110	34
Physiology	160	77	83	131	29
Zoology	427	266	161	409	18
Biosciences, n.e.c.	367	162	205	232	135
Psychology	17,667	5,206	12,461	9,842	7,825
Social sciences	29,794	15,793	14,001	22,365	7,429
Agricultural economics	312	232	80	312	0
Anthropology	1,753	664	1,089	1,498	255
Economics (except agricultural)	3,086	2,140	946	2,112	974
Geography	1,189	760	429	1,171	18
History and philosophy of science	30	16	14	26	4
Linguistics	947	280	667	766	181
Political science	15,226	8,150	7,076	10,976	4,250
Sociology	2,077	851	1,226	1,704	373
Sociology/anthropology	430	179	251	263	167
Social sciences, n.e.c.	4,744	2,521	2,223	3,537	1,207
Total, health fields	29,159	4,780	24,379	20,165	8,994
Dentistry	129	87	42	91	38
Neurology	22	8	14	12	10
Nursing	15,194	649	14,545	11,113	4,081
Pharmaceutical sciences	826	482	344	419	407
Preventive medicine/community health	3,761	1,353	2,408	2,389	1,372
Speech pathology/audiology	2,768	257	2,511	2,143	625
Veterinary sciences	191	97	94	183	8
Clinical medicine, n.e.c.	408	155	253	302	106
Health related, n.e.c.	5,860	1,692	4,168	3,513	2,347

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-10. Part-time science and engineering graduate students in all institutions by field and citizenship, and by racial/ethnic background of U.S. citizens: 1990

Field	Total	Racial/ethnic background of U.S. citizens						Non-U.S. citizens
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Total, all surveyed fields	163,107	7,224	502	7,089	4,736	117,624	9,978	15,954
Total, science/engineering fields	133,948	5,769	391	6,454	3,905	93,334	8,897	15,198
Engineering, total	42,752	849	91	3,085	846	27,188	3,902	6,791
Aerospace	996	7	3	56	16	729	89	96
Agricultural	146	1	0	1	2	95	2	45
Biomedical	332	7	0	21	7	212	4	81
Chemical	1,281	19	4	80	31	952	28	167
Civil	5,446	112	20	337	120	3,326	370	1,161
Electrical	15,177	286	31	1,476	284	8,849	1,646	2,605
Engineering science	1,215	28	5	90	7	916	22	147
Industrial	6,850	189	17	275	156	4,852	603	758
Mechanical	6,036	95	9	334	120	3,834	645	999
Metallurgical/materials	974	8	0	45	11	661	98	151
Mining	103	0	0	2	0	56	2	43
Nuclear	198	2	0	2	5	156	0	33
Petroleum	186	3	0	7	2	136	0	38
Engineering, n.e.c.	3,812	92	2	359	85	2,414	393	467
Sciences, total	91,196	4,920	300	3,369	3,059	66,146	4,995	8,407
Physical sciences	4,764	171	7	179	112	3,155	304	836
Astronomy	21	1	0	0	0	15	0	5
Chemistry	2,752	131	4	120	75	1,703	217	502
Physics	1,763	30	2	59	33	1,253	79	307
Physical sciences, n.e.c.	228	9	1	0	4	184	8	22
Earth, atmospheric, and ocean sciences	3,864	37	5	70	54	3,342	107	249
Atmospheric sciences	101	1	0	1	1	80	1	17
Geosciences	1,934	13	4	18	29	1,692	60	118
Oceanography	399	7	0	8	3	347	10	24
Earth, atmos., and ocean sci., n.e.c.	1,430	16	1	4	21	1,223	36	90
Mathematical sciences	6,014	248	7	329	107	4,174	502	647
Computer sciences	17,635	618	24	1,660	375	10,972	1,197	2,789
Agricultural sciences	2,222	24	3	30	31	1,714	107	313
Biological sciences	9,236	320	28	295	259	7,036	407	891
Anatomy	89	2	0	5	1	70	0	11
Biochemistry	217	6	1	11	9	137	5	48
Biology	3,918	150	12	119	135	2,937	299	266
Biometry/epidemiology	702	23	0	25	19	569	2	64
Biophysics	37	0	0	3	0	31	0	3
Botany	413	23	2	3	5	310	10	59
Cell biology	77	1	0	2	5	54	2	13
Ecology	287	5	0	4	5	236	3	34
Entomology/parasitology	179	5	0	2	5	124	3	44
Genetics	91	5	0	7	1	66	2	10
Microbiology	509	9	1	14	7	377	22	79
Nutrition	1,339	55	7	57	36	1,018	25	141
Pathology	280	16	0	10	5	213	17	19
Pharmacology	144	5	0	10	0	110	1	18
Physiology	160	2	0	5	3	124	4	22
Zoology	427	9	3	4	3	358	6	44
Biosciences, n.e.c.	367	9	2	14	18	302	6	16
Psychology	17,667	998	85	235	745	14,505	757	342
Social sciences	29,794	2,504	141	571	1,376	21,248	1,614	2,340
Agricultural economics	312	6	0	4	2	178	1	121
Anthropology	1,753	22	15	22	38	1,391	168	97
Economics (except agricultural)	3,086	135	41	105	69	1,769	310	657
Geography	1,189	25	3	18	17	1,007	52	67
History and philosophy of science	30	1	0	1	0	28	0	0
Linguistics	947	94	1	13	68	569	45	157
Political science	15,226	1,505	49	293	758	11,206	703	712
Sociology	2,077	193	10	44	84	1,383	109	254
Sociology/anthropology	430	40	1	2	6	328	12	41
Social sciences, n.e.c.	4,744	483	21	69	334	3,389	214	234
Total, health fields	29,159	1,455	111	635	831	24,290	1,081	756
Dentistry	129	2	0	3	6	95	0	21
Neurology	22	0	0	1	0	18	0	3
Nursing	15,194	716	65	267	257	13,406	372	111
Pharmaceutical sciences	826	52	1	37	35	475	84	142
Preventive medicine/community health	3,761	229	13	154	290	2,721	122	229
Speech pathology/audiology	2,768	163	12	33	90	2,227	174	69
Veterinary sciences	191	14	0	0	2	145	10	20
Clinical medicine, n.e.c.	408	18	0	16	10	324	11	29
Health related, n.e.c.	5,860	261	20	122	141	4,876	308	132

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-11. Part-time science and engineering graduate students in all institutions by geographic distribution and citizenship, and by racial/ethnic background of U.S. citizens: 1990

Geographic distribution	Total	Racial/ethnic background of U.S. citizens						Non-U.S. citizens
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Total, all institutions	163,107	7,224	502	7,089	4,736	117,624	9,978	15,954
New England	11,500	156	10	262	116	8,695	1,426	835
Connecticut	3,255	58	2	70	35	2,753	213	124
Maine	165	0	0	0	1	154	8	2
Massachusetts	7,131	88	7	180	70	4,973	1,137	676
New Hampshire	277	5	1	6	1	209	50	5
Rhode Island	539	3	0	5	6	485	18	22
Vermont	133	2	0	1	3	121	0	6
Middle Atlantic	36,855	1,704	56	1,784	829	24,982	4,005	3,495
New Jersey	6,125	253	8	566	130	3,900	516	752
New York	22,214	1,220	32	936	650	13,948	3,361	2,067
Pennsylvania	8,516	231	16	282	49	7,134	128	676
East North Central	24,970	1,291	44	907	522	18,738	1,164	2,304
Illinois	8,051	699	7	505	243	5,756	172	669
Indiana	2,173	88	5	27	32	1,783	131	107
Michigan	5,586	257	25	205	161	3,854	198	886
Ohio	6,581	211	3	134	63	5,056	646	468
Wisconsin	2,579	36	4	36	23	2,289	17	174
West North Central	9,978	157	32	225	80	8,105	317	1,062
Iowa	1,136	5	1	8	5	882	41	194
Kansas	2,357	28	9	55	32	1,780	131	322
Minnesota	1,787	13	4	17	7	1,554	84	108
Missouri	3,256	87	12	108	34	2,617	54	344
Nebraska	1,003	17	1	28	2	902	7	46
North Dakota	131	2	1	5	0	109	0	14
South Dakota	308	5	4	4	0	261	0	34
South Atlantic	26,470	1,844	53	855	669	19,340	839	2,870
Delaware	353	13	0	3	2	295	2	38
District of Columbia	4,840	461	14	195	96	2,790	414	870
Florida	6,090	293	20	159	400	4,332	251	635
Georgia	2,314	294	1	59	41	1,641	20	258
Maryland	4,353	320	1	142	49	3,320	59	462
North Carolina	2,148	164	6	65	12	1,708	54	142
South Carolina	1,101	58	4	17	10	876	6	130
Virginia	4,279	218	6	197	53	3,508	32	265
West Virginia	992	23	1	21	6	870	1	70
East South Central	7,377	506	19	176	47	6,004	103	522
Alabama	2,623	189	4	67	19	2,096	7	241
Kentucky	1,466	52	9	41	10	1,306	1	47
Mississippi	567	91	0	27	2	420	0	27
Tennessee	2,721	174	6	41	16	2,182	95	207
West South Central	15,549	759	93	754	658	11,553	181	1,551
Arkansas	610	43	2	5	7	539	1	13
Louisiana	1,274	217	5	35	10	879	26	104
Oklahoma	2,034	44	58	44	21	1,309	39	519
Texas	11,631	455	30	670	620	8,826	115	915
Mountain	8,481	114	67	205	279	6,573	311	932
Arizona	2,353	23	39	53	113	1,717	15	393
Colorado	2,602	49	8	96	62	2,096	106	185
Idaho	760	9	2	13	10	633	21	72
Montana	164	1	5	1	0	135	8	16
Nevada	584	17	0	11	8	335	128	85
New Mexico	888	10	11	13	77	685	15	77
Utah	920	5	3	14	7	776	17	98
Wyoming	210	0	1	4	2	196	1	6
Pacific	21,207	693	128	1,921	820	13,634	1,632	2,379
Alaska	302	4	1	7	1	256	10	23
California	18,254	645	113	1,706	797	11,444	1,485	2,064
Hawaii	329	2	3	118	2	149	10	45
Oregon	794	13	4	34	3	590	40	110
Washington	1,528	29	7	56	17	1,195	87	137
Outlying areas	720	0	0	0	716	0	0	4

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-12. Science and engineering graduate students by field and enrollment status in historically black colleges and universities according to highest degree granted: 1990

Field	In all institutions			Doctorate-granting			Master's-granting		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total, all surveyed fields	3,628	2,139	1,489	1,418	895	523	2,210	1,244	966
Total, science/engineering fields	3,419	1,989	1,430	1,316	804	512	2,103	1,185	918
Engineering, total	394	236	158	126	60	66	268	176	92
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0
Civil	60	28	32	50	26	24	10	2	8
Electrical	132	81	51	45	23	22	87	58	29
Engineering science	0	0	0	0	0	0	0	0	0
Industrial	28	20	8	0	0	0	28	20	8
Mechanical	100	72	28	31	11	20	69	61	8
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	74	35	39	0	0	0	74	35	39
Sciences, total	3,025	1,753	1,272	1,190	744	446	1,835	1,009	826
Physical sciences	340	217	123	116	75	41	224	142	82
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	203	122	81	85	51	34	118	71	47
Physics	130	91	39	31	24	7	99	67	32
Physical sciences, n.e.c.	7	4	3	0	0	0	7	4	3
Earth, atmospheric, and ocean sciences	48	24	24	39	20	19	9	4	5
Atmospheric sciences	0	0	0	0	0	0	0	0	0
Geosciences	6	4	2	2	0	2	4	0	2
Oceanography	37	20	17	37	20	17	0	0	0
Earth, atmos., and ocean sci., n.e.c.	5	2	3	0	0	0	5	2	3
Mathematical sciences	179	95	84	34	25	9	145	70	75
Computer sciences	404	216	188	131	59	72	273	157	116
Agricultural sciences	131	106	25	8	4	4	123	102	21
Biological sciences	460	354	106	215	171	44	245	183	62
Anatomy	8	8	0	8	8	0	0	0	0
Biochemistry	15	15	0	15	15	0	0	0	0
Biology	184	130	54	30	27	3	154	103	51
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	68	39	29	38	9	29	30	30	0
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	22	18	4	22	18	4	0	0	0
Microbiology	15	15	0	15	15	0	0	0	0
Nutrition	42	33	9	0	0	0	42	33	9
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	8	8	0	8	8	0	0	0	0
Physiology	32	32	0	32	32	0	0	0	0
Zoology	28	20	8	28	20	8	0	0	0
Biosciences, n.e.c.	38	36	2	19	19	0	19	17	2
Psychology	448	175	273	100	54	46	348	121	227
Social sciences	1,015	566	449	547	336	211	468	230	238
Agricultural economics	39	25	14	0	0	0	39	25	14
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	86	44	42	75	37	38	11	7	4
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	134	63	71	134	63	71	0	0	0
Political science	262	141	121	147	110	37	115	31	84
Sociology	211	124	87	47	17	30	164	107	57
Sociology/anthropology	61	39	22	58	36	22	3	3	0
Social sciences, n.e.c.	222	130	92	86	73	13	136	57	79
Total, health fields	209	150	59	102	91	11	107	59	48
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	43	24	19	0	0	0	43	24	19
Pharmaceutical sciences	41	30	11	41	30	11	0	0	0
Preventive medicine/community health	0	0	0	0	0	0	0	0	0
Speech pathology/audiology	45	24	21	0	0	0	45	24	21
Veterinary sciences	19	11	8	0	0	0	19	11	8
Clinical medicine, n.e.c.	61	61	0	61	61	0	0	0	0
Health related, n.e.c.	0	0	0	0	0	0	0	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-13. Science and engineering graduate students by field, sex, and level of department, in historically black colleges and universities according to control: 1990

Field	Total	Control		Sex		Level of department	
		Public	Private	Men	Women	Doctorate 1/	Masters
Total, all surveyed fields	3,628	2,179	1,449	2,024	1,604	1,222	2,406
Total, science/engineering fields	3,419	2,134	1,285	1,950	1,469	1,120	2,299
Engineering, total	394	257	137	307	87	125	269
Aerospace	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0
Civil	60	34	26	48	12	0	60
Electrical	132	72	60	93	39	45	87
Engineering science	0	0	0	0	0	0	0
Industrial	28	28	0	13	15	0	28
Mechanical	100	49	51	89	11	80	20
Metallurgical/materials	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0
Engineering, n.e.c.	74	74	0	64	10	0	74
Sciences, total	3,025	1,877	1,148	1,643	1,382	995	2,030
Physical sciences	340	176	164	229	111	138	202
Astronomy	0	0	0	0	0	0	0
Chemistry	203	96	107	122	81	85	118
Physics	130	73	57	105	25	53	77
Physical sciences, n.e.c.	7	7	0	2	5	0	7
Earth, atmospheric, and ocean sciences	48	46	2	26	22	37	11
Atmospheric sciences	0	0	0	0	0	0	0
Geosciences	6	4	2	4	2	0	6
Oceanography	37	37	0	20	17	37	0
Earth, atmos., and ocean sci., n.e.c.	5	5	0	2	3	0	5
Mathematical sciences	179	137	42	109	70	22	157
Computer sciences	404	318	86	250	154	0	404
Agricultural sciences	131	88	43	104	27	0	131
Biological sciences	460	210	250	220	240	205	255
Anatomy	8	0	8	2	6	0	0
Biochemistry	15	0	15	12	3	15	0
Biology	184	132	52	81	103	28	156
Biometry/epidemiology	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0
Botany	68	30	38	39	29	30	38
Cell biology	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0
Genetics	22	0	22	9	13	22	0
Microbiology	15	0	15	8	7	15	0
Nutrition	42	29	13	26	16	0	42
Pathology	0	0	0	0	0	0	0
Pharmacology	8	0	8	4	4	8	0
Physiology	32	0	32	19	13	32	0
Zoology	28	0	28	8	20	28	0
Biosciences, n.e.c.	38	19	19	12	26	19	19
Psychology	448	354	94	159	289	167	281
Social sciences	1,015	548	467	546	469	426	589
Agricultural economics	39	39	0	31	8	0	39
Anthropology	0	0	0	0	0	0	0
Economics (except agricultural)	86	11	75	65	21	60	26
Geography	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0
Linguistics	134	0	134	53	81	134	0
Political science	262	128	134	160	102	142	120
Sociology	211	167	44	94	117	44	167
Sociology/anthropology	61	0	61	20	41	46	15
Social sciences, n.e.c.	222	203	19	123	99	0	222
Total, health fields	209	45	164	74	135	102	107
Dentistry	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0
Nursing	43	0	43	1	42	0	43
Pharmaceutical sciences	41	26	15	23	18	41	0
Preventive medicine/community health ...	0	0	0	0	0	0	0
Speech pathology/audiology	45	19	26	5	40	0	45
Veterinary sciences	19	0	19	14	5	0	19
Clinical medicine, n.e.c.	61	0	61	31	30	61	0
Health related, n.e.c.	0	0	0	0	0	0	0

1/ Includes all students enrolled in doctorate-level departments

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-14. Science and engineering graduate students in historically black colleges and universities by field and citizenship, and by racial/ethnic background of U.S. citizens: 1990

Field	Total	Racial/ethnic background of U.S. citizens						Non-U.S. citizens
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Total, all surveyed fields	3,628	1,961	3	184	25	434	92	929
Total, science/engineering fields	3,419	1,863	2	177	19	360	83	915
Engineering, total	394	142	0	54	3	55	6	134
Aerospace	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0
Civil	60	16	0	3	1	21	0	19
Electrical	132	59	0	27	1	11	1	33
Engineering science	0	0	0	0	0	8	0	0
Industrial	28	14	0	0	1	5	0	0
Mechanical	100	36	0	15	0	9	0	40
Metallurgical/materials	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0
Engineering, n.e.c.	74	17	0	9	0	6	0	42
Sciences, total	3,025	1,721	2	123	16	305	77	781
Physical sciences	340	175	0	17	0	37	6	105
Astronomy	0	0	0	0	0	15	0	0
Chemistry	203	105	0	11	0	22	6	66
Physics	130	63	0	6	0	22	0	39
Physical sciences, n.e.c.	7	7	0	0	0	0	0	0
Earth, atmospheric, and ocean sciences	48	14	0	0	0	22	2	10
Atmospheric sciences	0	0	0	0	0	0	0	0
Geosciences	6	4	0	0	0	2	0	0
Oceanography	37	6	0	0	0	20	1	10
Earth, atmos., and ocean sci., n.e.c.	5	4	0	0	0	0	1	0
Mathematical sciences	179	108	0	17	0	17	11	26
Computer sciences	404	159	0	51	3	33	17	141
Agricultural sciences	131	34	0	5	1	9	0	82
Biological sciences	460	278	0	20	6	30	0	126
Anatomy	8	7	0	1	0	0	0	0
Biochemistry	15	4	0	2	0	0	0	9
Biology	184	132	0	8	1	11	0	32
Biometry/epidemiology	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0
Botany	68	25	0	1	1	4	0	37
Cell biology	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0
Genetics	22	10	0	3	0	3	0	6
Microbiology	15	13	0	0	0	0	0	2
Nutrition	42	13	0	0	2	8	0	19
Pathology	0	0	0	0	0	0	0	0
Pharmacology	8	6	0	0	0	0	0	2
Physiology	32	22	0	2	0	0	0	10
Zoology	28	18	0	2	2	0	0	8
Biosciences, n.e.c.	38	28	0	3	4	0	0	1
Psychology	448	313	1	3	1	81	16	33
Social sciences	1,015	640	1	10	5	76	25	258
Agricultural economics	39	6	0	1	0	0	0	32
Anthropology	0	0	0	0	0	0	0	0
Economics (except agricultural)	86	29	0	2	0	0	0	55
Geography	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0
Linguistics	134	93	0	0	0	0	0	41
Political science	262	166	0	0	1	40	10	45
Sociology	211	147	0	4	2	8	2	48
Sociology/anthropology	61	44	0	0	0	1	0	16
Social sciences, n.e.c.	222	155	1	3	2	27	13	21
Total, health fields	209	98	1	7	6	74	9	14
Dentistry	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0
Nursing	43	20	0	3	0	18	0	2
Pharmaceutical sciences	41	25	1	1	1	4	1	8
Preventive medicine/community health ...	0	0	0	0	0	0	0	0
Speech pathology/audiology	45	31	0	1	1	4	8	0
Veterinary sciences	19	15	0	0	0	0	0	4
Clinical medicine, n.e.c.	61	7	0	2	4	48	0	0
Health related, n.e.c.	0	0	0	0	0	0	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-15. Science and engineering graduate students by field and enrollment status
in land-grant institutions according to highest degree granted: 1990

Field	In all institutions			Doctorate-granting			Master's-granting		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total, all surveyed fields	141,953	111,659	30,294	140,342	110,865	29,477	1,611	794	817
Total, science/engineering fields	129,679	103,667	26,012	128,087	102,881	25,206	1,592	786	806
Engineering, total	37,600	28,587	9,013	37,285	28,421	8,864	315	166	149
Aerospace	1,397	1,103	294	1,397	1,103	294	0	0	0
Agricultural	844	716	128	844	716	128	0	0	0
Biomedical	558	445	113	558	445	113	0	0	0
Chemical	2,884	2,603	281	2,884	2,603	281	0	0	0
Civil	6,458	2,255	1,183	6,428	2,233	1,175	10	2	8
Electrical	10,059	7,380	2,679	9,987	7,337	2,650	72	43	29
Engineering science	1,307	1,307	0	1,307	1,307	0	0	0	0
Industrial	3,005	1,653	1,352	2,977	1,633	1,344	28	20	8
Mechanical	6,299	5,070	1,229	6,250	5,029	1,221	49	41	8
Metallurgical/materials	2,078	1,841	237	2,078	1,841	237	0	0	0
Mining	229	180	49	229	180	49	0	0	0
Nuclear	883	769	114	883	769	114	0	0	0
Petroleum	201	174	27	201	174	27	0	0	0
Engineering, n.e.c.	1,418	963	455	1,262	903	359	156	60	96
Sciences, total	92,079	75,080	16,999	90,802	74,460	16,342	1,277	620	657
Physical sciences	13,228	12,132	1,096	13,108	12,063	1,045	120	69	51
Astronomy	332	328	4	332	328	4	0	0	0
Chemistry	7,314	6,711	603	7,249	6,676	573	65	35	30
Physics	5,551	5,069	482	5,496	5,035	461	55	34	21
Physical sciences, n.e.c.	31	24	7	31	24	7	0	0	0
Earth, atmospheric, and ocean sciences	5,629	4,438	1,191	5,620	4,434	1,186	9	4	5
Atmospheric sciences	593	542	51	593	542	51	0	0	0
Geosciences	2,885	2,296	589	2,881	2,294	587	4	2	2
Oceanography	1,228	1,065	163	1,228	1,065	163	0	0	0
Earth, atmos., and ocean sci., n.e.c.	923	535	388	918	533	385	5	2	3
Mathematical sciences	7,087	6,030	1,057	7,006	5,991	1,015	81	39	42
Computer sciences	6,765	4,985	1,780	6,545	4,873	1,672	220	112	108
Agricultural sciences	8,777	7,293	1,484	8,697	7,233	1,464	80	60	20
Biological sciences	20,209	17,761	2,448	20,092	17,659	2,433	117	102	15
Anatomy	304	278	26	304	278	26	0	0	0
Biochemistry	2,248	2,157	91	2,248	2,157	91	0	0	0
Biology	2,700	2,348	352	2,652	2,314	338	48	34	14
Biometry/epidemiology	289	207	82	289	207	82	0	0	0
Biophysics	195	193	2	195	193	2	0	0	0
Botany	2,266	1,984	282	2,236	1,954	282	30	30	0
Cell biology	1,033	979	54	1,033	979	54	0	0	0
Ecology	636	581	55	636	581	55	0	0	0
Entomology/parasitology	1,063	909	154	1,063	909	154	0	0	0
Genetics	654	624	30	654	624	30	0	0	0
Microbiology	2,162	1,917	245	2,162	1,917	245	0	0	0
Nutrition	2,660	2,097	563	2,631	2,068	563	29	29	0
Pathology	495	425	70	495	425	70	0	0	0
Pharmacology	975	926	49	975	926	49	0	0	0
Physiology	842	787	55	842	787	55	0	0	0
Zoology	1,315	1,055	260	1,315	1,055	260	0	0	0
Biosciences, n.e.c.	372	294	78	362	285	77	10	9	1
Psychology	7,984	5,983	2,001	7,629	5,875	1,754	355	108	247
Social sciences	22,400	16,458	5,942	22,105	16,332	5,773	295	126	169
Agricultural economics	2,071	1,794	277	2,032	1,769	263	39	25	14
Anthropology	1,802	1,365	437	1,802	1,365	437	0	0	0
Economics (except agricultural)	3,937	3,260	677	3,937	3,260	677	0	0	0
Geography	1,330	1,038	292	1,330	1,038	292	0	0	0
History and philosophy of science	136	120	16	136	120	16	0	0	0
Linguistics	927	829	98	927	829	98	0	0	0
Political science	6,541	3,735	2,806	6,412	3,712	2,700	129	23	106
Sociology	2,575	2,089	486	2,532	2,052	480	43	37	6
Sociology/anthropology	428	309	119	428	309	119	0	0	0
Social sciences, n.e.c.	2,653	1,919	734	2,569	1,878	691	84	41	43
Total, health fields	12,274	7,992	4,282	12,255	7,984	4,271	19	8	11
Dentistry	199	185	14	199	185	14	0	0	0
Neurology	228	217	11	228	217	11	0	0	0
Nursing	4,392	1,874	2,518	4,392	1,874	2,518	0	0	0
Pharmaceutical sciences	943	786	157	943	786	157	0	0	0
Preventive medicine/community health ...	2,455	1,772	683	2,455	1,772	683	0	0	0
Speech pathology/audiology	1,699	1,364	335	1,680	1,356	324	19	8	11
Veterinary sciences	813	643	170	813	643	170	0	0	0
Clinical medicine, n.e.c.	461	411	50	461	411	50	0	0	0
Health related, n.e.c.	1,084	740	344	1,084	740	344	0	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-16. Science and engineering graduate students in land-grant institutions by field and citizenship, and by racial/ethnic background of U.S. citizens: 1990

Field	Total	Racial/ethnic background of U.S. citizens						Non-U.S. citizens
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Total, all surveyed fields	141,953	3,672	393	5,678	4,630	83,267	2,610	41,703
Total, science/engineering fields	129,679	3,258	319	5,125	3,656	74,565	2,398	40,358
Engineering, total	37,600	596	54	2,042	586	17,852	1,007	15,463
Aerospace	1,397	14	1	27	12	826	8	489
Agricultural	1,844	3	0	23	14	329	5	470
Biomedical	558	6	1	23	8	313	10	197
Chemical	2,884	30	2	147	63	1,281	15	1,346
Civil	6,438	91	12	267	125	3,181	89	2,673
Electrical	10,059	200	16	845	145	4,396	239	4,218
Engineering science	1,307	28	5	104	9	911	34	216
Industrial	3,005	71	7	71	51	1,673	70	1,062
Mechanical	6,299	82	6	273	82	2,736	408	2,712
Metallurgical/materials	2,078	25	0	94	40	944	42	933
Mining	229	0	0	10	1	93	2	123
Nuclear	883	3	1	22	18	432	2	405
Petroleum	201	0	0	1	2	80	0	118
Engineering, n.e.c.	1,418	43	3	115	16	657	83	501
Sciences, total	92,079	2,662	265	3,083	3,070	56,713	1,391	24,895
Physical sciences	13,228	207	22	441	320	7,446	213	4,579
Astronomy	332	2	0	16	2	250	3	59
Chemistry	7,314	132	11	236	222	4,122	129	2,462
Physics	5,551	71	11	189	96	3,050	81	2,053
Physical sciences, n.e.c.	31	2	0	0	0	24	0	5
Earth, atmospheric, and ocean sciences	5,629	46	20	90	115	4,013	49	1,296
Atmospheric sciences	293	6	0	26	8	360	2	191
Geosciences	2,885	19	13	33	40	2,148	13	619
Oceanography	1,228	7	1	19	51	805	22	323
Earth, atmos., and ocean sci., n.e.c.	923	14	6	12	16	700	12	163
Mathematical sciences	7,087	141	5	303	167	3,634	84	2,753
Computer sciences	6,765	186	14	391	58	3,380	126	2,610
Agricultural sciences	8,777	127	12	209	214	5,581	128	2,506
Biological sciences	20,209	361	61	859	546	12,647	334	5,401
Anatomy	304	1	1	16	8	226	2	50
Biochemistry	2,248	31	3	130	49	1,272	24	739
Biology	2,700	81	11	144	175	1,839	33	417
Biometry/epidemiology	289	3	0	10	24	192	0	60
Biophysics	195	2	2	14	3	123	0	51
Botany	2,266	28	5	62	23	1,323	43	782
Cell biology	1,033	15	1	63	46	671	17	220
Ecology	636	1	1	11	9	441	10	159
Entomology/parasitology	1,063	16	8	41	26	640	25	307
Genetics	654	2	0	28	4	437	5	178
Microbiology	2,162	30	2	84	66	1,403	24	553
Nutrition	2,660	65	10	107	35	1,409	51	983
Pathology	495	15	1	13	6	290	33	137
Pharmacology	975	25	6	45	28	566	27	278
Physiology	842	10	6	63	23	525	12	206
Zoology	1,315	20	2	22	19	1,015	21	213
Biosciences, n.e.c.	372	12	2	6	2	275	7	68
Psychology	7,984	434	45	235	487	6,224	68	491
Social sciences	22,400	1,160	86	555	1,163	13,788	389	5,259
Agricultural economics	2,071	44	0	48	87	930	14	948
Anthropology	1,802	32	18	25	50	1,397	40	260
Economics (except agricultural)	3,937	82	6	118	104	1,933	38	1,650
Geography	1,330	20	6	35	20	1,024	8	217
History and philosophy of science	136	1	0	3	3	108	7	14
Linguistics	927	8	4	35	49	422	11	398
Political science	6,541	502	10	146	481	4,604	183	615
Sociology	2,575	147	23	69	103	1,605	44	584
Sociology/anthropology	428	27	3	2	7	285	5	99
Social sciences, n.e.c.	2,653	297	16	74	259	1,480	39	488
Total, health fields	12,274	414	74	553	974	8,702	212	1,345
Dentistry	199	4	0	6	4	135	0	50
Neurology	228	2	1	13	6	164	1	41
Nursing	4,392	146	28	125	149	3,761	50	133
Pharmaceutical sciences	943	35	0	44	46	435	19	364
Preventive medicine/community health	2,455	102	23	212	484	1,223	57	354
Speech pathology/audiology	1,699	67	12	62	93	1,348	27	90
Veterinary sciences	813	26	2	20	11	538	12	187
Clinical medicine, n.e.c.	461	1	3	45	14	316	12	68
Health related, n.e.c.	1,084	31	3	26	167	782	17	58

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-17. Science and engineering postdoctoral appointees in doctorate-granting institutions by field and source of support, and number of postdoctoral appointees who were non-U.S. citizens: 1990

Field	Total	Source of support				Non-Federal	Number of post-doctoral appointees who were not U.S. citizens
		Federal					
		Total	Fellowships	Trainee-ships	Research grants		
Total, all surveyed fields	30,432	20,929	2,906	2,726	15,297	9,503	14,678
Total, science/engineering fields	22,397	16,144	1,905	1,190	13,049	6,253	11,307
Engineering, total	1,953	1,258	37	29	1,192	695	1,344
Aerospace	67	54	2	0	50	13	46
Agricultural	31	16	0	0	16	15	19
Biomedical	74	52	3	6	43	22	37
Chemical	551	297	5	5	287	254	394
Civil	168	107	6	2	99	61	91
Electrical	241	161	5	3	153	80	163
Engineering science	76	60	3	0	57	16	47
Industrial	12	7	0	0	7	5	3
Mechanical	219	157	6	7	144	62	152
Metallurgical/materials	368	242	5	1	236	126	280
Mining	19	16	0	3	13	3	18
Nuclear	30	21	0	0	21	9	21
Petroleum	14	9	0	0	9	5	10
Engineering, n.e.c.	83	59	2	0	57	24	63
Sciences, total	20,444	14,886	1,868	1,161	11,857	5,558	9,963
Physical sciences	5,545	4,422	312	36	4,074	1,123	3,340
Astronomy	184	168	30	0	138	16	72
Chemistry	3,610	2,798	227	29	2,542	812	2,292
Physics	1,721	1,430	55	7	1,368	291	970
Physical sciences, n.e.c.	30	26	0	0	26	4	6
Earth, atmospheric, and ocean sciences	611	504	28	2	474	107	219
Atmospheric sciences	57	51	2	0	49	6	26
Geosciences	359	285	10	2	273	74	141
Oceanography	174	151	14	0	137	23	44
Earth, atmos., and ocean sci., n.e.c.	21	17	2	0	15	4	8
Mathematical sciences	253	158	41	1	116	95	154
Computer sciences	71	57	1	0	56	14	31
Agricultural sciences	499	267	9	2	256	232	190
Biological sciences	12,498	8,926	1,392	987	6,547	3,572	5,743
Anatomy	483	392	78	35	279	91	232
Biochemistry	2,319	1,732	229	100	1,403	587	1,210
Biology	1,361	1,034	205	47	782	327	550
Biometry/epidemiology	103	75	10	44	21	28	28
Biophysics	122	83	4	11	68	39	72
Botany	475	305	32	1	272	170	195
Cell biology	1,346	924	179	73	672	422	543
Ecology	57	38	2	0	36	19	18
Entomology/parasitology	212	136	5	0	131	76	74
Genetics	644	409	109	66	234	235	248
Microbiology	1,505	1,074	147	154	773	431	702
Nutrition	139	66	0	9	57	73	87
Pathology	1,037	641	104	148	389	396	434
Pharmacology	1,190	890	98	140	652	300	647
Physiology	1,074	820	150	121	549	254	515
Zoology	216	139	38	8	93	77	66
Biosciences, n.e.c.	215	168	2	30	136	47	122
Psychology	487	357	48	103	206	130	85
Social sciences	480	195	37	30	128	285	201
Agricultural economics	57	28	0	0	28	29	31
Anthropology	88	24	4	3	17	64	21
Economics (except agricultural)	42	12	6	0	6	30	35
Geography	19	15	0	0	15	4	6
History and philosophy of science	18	3	0	0	3	15	6
Linguistics	38	10	1	2	7	28	21
Political science	66	24	18	1	5	42	30
Sociology	104	56	7	23	26	48	36
Sociology/anthropology	2	0	0	0	0	2	1
Social sciences, n.e.c.	46	23	1	1	21	23	17
Total, health fields	8,035	4,785	1,001	1,536	2,248	3,250	3,371
Dentistry	66	41	15	6	20	25	42
Neurology	537	347	67	81	199	190	262
Nursing	23	21	15	2	4	2	1
Pharmaceutical sciences	409	306	8	12	286	103	258
Preventive medicine/community health	219	158	33	54	71	61	74
Speech pathology/audiology	28	26	5	7	14	2	9
Veterinary sciences	119	72	18	13	41	47	42
Clinical medicine, n.e.c.	6,480	3,737	828	1,329	1,580	2,743	2,619
Health related, n.e.c.	154	77	12	32	33	77	64

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table A-18. Science and engineering postdoctoral appointees and other nonfaculty doctoral research staff in doctorate-granting institutions, by field and sex: 1990

Field	Postdoctoral appointees			Other nonfaculty doctoral research staff		
	Total	Men	Women	Total	Men	Women
Total, all surveyed fields	30,432	22,182	8,250	5,254	3,861	1,393
Total, science/engineering fields	22,397	16,576	5,821	4,346	3,340	1,006
Engineering, total	1,953	1,743	210	604	551	53
Aerospace	67	63	4	24	24	0
Agricultural	31	24	7	13	12	1
Biomedical	74	69	5	12	6	6
Chemical	551	470	81	77	61	16
Civil	168	154	14	51	50	1
Electrical	241	227	14	103	96	7
Engineering science	76	71	5	17	14	3
Industrial	12	9	3	15	11	4
Mechanical	219	203	16	129	124	5
Metallurgical/materials	368	324	44	103	96	7
Mining	19	19	0	1	1	0
Nuclear	30	26	4	36	35	1
Petroleum	14	13	1	5	4	1
Engineering, n.e.c.	83	71	12	18	17	1
Sciences, total	20,444	14,833	5,611	3,742	2,789	953
Physical sciences	5,545	4,760	785	998	892	106
Astronomy	184	159	25	87	81	6
Chemistry	3,610	3,016	594	449	373	76
Physics	1,721	1,559	162	458	434	24
Physical sciences, n.e.c.	30	26	4	4	4	0
Earth, atmospheric, and ocean sciences	611	516	95	310	253	57
Atmospheric sciences	57	51	6	19	18	1
Geosciences	359	298	61	135	109	26
Oceanography	174	148	26	133	110	23
Earth, atmos., and ocean sci., n.e.c.	21	19	2	23	16	7
Mathematical sciences	253	223	30	88	83	5
Computer sciences	71	62	9	61	51	10
Agricultural sciences	499	377	122	175	138	37
Biological sciences	12,498	8,327	4,171	1,805	1,207	598
Anatomy	483	314	169	63	48	15
Biochemistry	2,319	1,599	720	343	228	115
Biology	1,361	918	443	275	191	84
Biometry/epidemiology	103	64	39	21	14	7
Biophysics	122	75	47	33	11	22
Botany	475	322	153	87	52	35
Cell biology	1,346	852	494	135	87	48
Ecology	57	41	16	13	8	5
Entomology/parasitology	212	157	55	86	69	17
Genetics	644	399	245	70	39	31
Microbiology	1,505	993	512	164	102	62
Nutrition	139	90	49	77	63	14
Pathology	1,037	694	343	113	70	43
Pharmacology	1,190	809	381	144	108	36
Physiology	1,074	726	348	129	87	42
Zoology	216	138	78	40	22	18
Biosciences, n.e.c.	215	136	79	12	8	4
Psychology	487	257	230	203	106	97
Social sciences	480	311	169	102	59	43
Agricultural economics	57	47	10	17	13	4
Anthropology	88	55	33	22	7	15
Economics (except agricultural)	42	35	7	4	1	0
Geography	19	13	6	4	4	0
History and philosophy of science	18	9	9	5	5	0
Linguistics	38	23	15	25	15	13
Political science	66	45	21	5	3	2
Sociology	104	61	43	23	16	7
Sociology/anthropology	2	2	0	0	0	0
Social sciences, n.e.c.	46	21	25	1	1	0
Total, health fields	8,035	5,606	2,429	908	521	387
Dentistry	66	40	26	9	7	2
Neurology	537	365	172	73	44	29
Nursing	23	3	20	10	2	8
Pharmaceutical sciences	409	281	128	22	15	7
Preventive medicine/community health	219	130	89	69	34	35
Speech pathology/audiology	28	12	16	20	6	14
Veterinary sciences	119	76	43	34	25	9
Clinical medicine, n.e.c.	6,480	4,613	1,867	639	374	264
Health related, n.e.c.	154	86	68	32	13	19

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-1. Total enrollment in all institutions of higher education enrollment by level and field: 1975-90

Year	Total	Graduate enrollment						Under-graduate enrollment	First-pro- fessional enrollment
		Total all fields	S&E fields 1/	Sciences	Engi- neering	Health fields	Non-S&E		
Total, all U. S. institutions									
1975	11,290,719	1,423,277	329,446	235,096	68,360	25,990	1,093,831	9,623,484	243,958
1976	11,121,626	1,258,302	334,574	239,090	66,750	28,734	923,728	9,617,211	246,113
1977	11,419,020	1,264,082	346,838	243,432	69,113	34,293	917,244	9,898,039	252,899
1978 2/ ..	11,391,950	1,265,961	345,187	239,966	68,661	36,560	920,774	9,867,493	258,496
1979	11,707,126	1,261,093	359,789	248,416	72,242	39,131	901,304	10,181,040	264,993
1980	12,234,644	1,293,697	369,679	257,407	75,053	42,219	921,018	10,661,150	279,797
1981	12,517,753	1,349,572	377,896	253,493	80,457	43,946	971,676	10,891,663	276,518
1982	12,588,520	1,329,644	384,872	256,126	84,581	44,165	944,772	10,978,407	280,469
1983	12,633,930	1,347,973	393,891	257,610	91,937	44,344	954,082	11,005,261	280,696
1984 2/ ..	12,400,392	1,353,554	398,011	258,383	93,644	45,984	955,543	10,766,018	280,820
1985 2/ ..	12,411,945	1,384,862	407,795	263,771	96,951	47,073	977,067	10,749,752	277,331
1986 2/ ..	12,670,121	1,444,369	419,102	267,416	103,071	48,615	1,025,267	10,952,167	273,585
1987 2/ ..	12,925,116	1,461,239	425,150	270,988	104,644	49,518	1,036,089	11,193,098	270,779
1988	13,206,559	1,481,459	429,648	274,555	103,719	51,374	1,051,811	11,454,955	270,145
1989	13,864,470	1,540,508	439,941	281,232	104,815	53,894	1,100,567	12,043,719	272,243
1990 3/ ..	14,113,279	1,531,381	458,943	292,270	109,299	57,374	1,072,438	12,303,393	278,505
Subtotal, 50 States and D.C.									
1975	11,184,859	1,418,616	328,980	233,994	68,306	25,680	1,090,636	9,523,976	242,267
1976	11,012,337	1,253,240	333,160	237,906	66,708	28,546	920,080	9,514,605	244,492
1977	11,285,787	1,258,157	343,232	242,087	68,995	34,150	912,925	9,776,273	251,357
1978 2/ ..	11,260,092	1,260,998	343,584	238,571	68,592	36,421	912,414	9,742,190	256,904
1979	11,569,895	1,255,676	358,209	247,020	72,192	38,997	897,467	10,050,819	263,404
1980	12,096,895	1,287,697	367,675	250,607	75,005	42,063	919,820	10,531,631	277,767
1981	12,371,672	1,342,555	375,879	251,672	80,391	43,816	966,676	10,754,522	274,595
1982	12,425,780	1,322,293	382,729	254,247	84,520	43,962	939,564	10,825,062	278,425
1983	12,464,661	1,340,137	391,473	255,477	91,875	44,121	948,664	10,845,995	278,529
1984 2/ ..	12,241,940	1,345,271	395,432	256,129	93,559	45,774	949,839	10,618,071	278,598
1985 2/ ..	12,504,501	1,376,181	405,121	261,403	96,849	46,869	971,060	10,596,674	274,200
1986 2/ ..	12,768,307	1,435,288	416,357	264,953	102,961	48,443	1,018,931	10,798,800	270,413
1987 2/ ..	13,043,118	1,451,938	425,646	268,577	104,666	49,303	1,029,492	11,047,902	268,467
1988	13,701,515	1,531,043	437,141	272,827	103,598	50,716	1,044,721	11,304,160	267,096
1989	13,950,800	1,522,046	456,404	290,609	109,190	56,605	1,065,442	12,153,000	275,754
Outlying areas									
1975	105,860	4,661	1,466	1,102	54	310	3,195	99,508	1,691
1976	109,289	5,062	1,414	1,184	42	188	3,648	102,606	1,621
1977	129,233	5,925	1,606	1,345	118	143	4,319	121,766	1,542
1978 2/ ..	131,858	4,963	1,603	1,395	69	139	3,360	125,303	1,592
1979	137,227	5,417	1,580	1,396	50	134	3,837	130,221	1,589
1980	137,749	6,200	2,004	1,800	48	156	4,196	129,519	2,030
1981	146,081	7,017	2,017	1,821	66	130	5,000	137,141	1,923
1982	162,740	7,351	2,143	1,879	61	203	5,208	153,345	2,044
1983	169,269	7,836	2,418	2,133	62	223	5,418	159,266	2,167
1984 2/ ..	158,452	8,283	2,579	2,254	85	240	5,704	147,947	2,222
1985 2/ ..	164,890	8,681	2,674	2,368	102	204	6,007	153,078	2,311
1986 2/ ..	165,620	9,081	2,745	2,463	110	172	6,336	153,367	2,472
1987 2/ ..	156,809	9,301	2,704	2,411	78	215	6,597	145,196	2,312
1988	163,441	9,597	2,507	1,728	121	658	7,090	150,795	2,049
1989	162,955	9,465	2,377	1,570	108	699	7,728	150,594	2,896
1990 3/ ..	162,479	9,335	2,539	1,661	109	769	6,796	150,393	2,751

1/ S&E = Science and engineering
S&E fields as classified by NSF.

2/ Graduate S&E enrollment data for 1978 and for 1984 through 1987 include estimates for master's-granting institutions.

3/ National Center for Educational Statistics data for 1989 represent preliminary estimates based on a sample of 639 institutions.

SOURCES: U. S. Department of Education/NCES, Opening Fall Enrollment and National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-2. Science and engineering graduate students in all institutions
by enrollment status and field: 1975-90

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Page 1 of 2										
Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	329,446	235,096	26,310	12,289	16,918	8,415	10,578	46,577	36,191	77,818
1976	334,574	239,090	26,631	12,034	17,092	8,627	11,154	47,932	37,458	77,162
1977	346,838	243,432	26,855	12,658	16,069	9,108	11,520	49,556	38,617	78,049
1978 1/.....	345,187	239,966	26,799	12,484	15,077	9,925	11,753	48,600	38,188	76,560
1979	359,789	248,416	26,700	13,854	15,063	11,690	12,069	48,503	39,777	80,760
1980	369,679	253,407	26,952	14,208	15,360	13,578	12,254	47,890	40,617	81,548
1981	377,896	253,493	26,982	14,222	15,915	16,437	12,100	46,979	40,674	79,584
1982	384,872	256,126	28,199	15,174	17,199	19,812	12,314	46,310	40,082	77,036
1983	393,891	257,610	29,666	15,344	17,397	23,616	12,290	46,055	41,039	72,203
1984 2/.....	398,011	258,383	30,096	15,612	17,478	23,810	12,062	46,171	41,074	70,112
1985 2/.....	407,795	263,771	30,995	15,748	17,613	24,844	11,380	46,538	41,308	70,548
1986 2/.....	419,102	269,416	31,560	16,143	18,090	25,187	11,255	47,216	41,551	70,482
1987 2/.....	425,150	270,988	31,538	16,143	18,573	25,187	11,004	47,452	42,888	71,674
1988	439,648	274,555	31,972	16,035	19,141	25,787	11,000	48,316	44,389	71,918
1989	450,941	281,252	32,628	16,848	19,382	25,846	11,038	49,617	46,304	74,569
1990	458,943	292,270	32,537	16,159	19,884	25,507	11,183	50,921	48,659	78,620
Full-time										
1975	220,287	164,815	21,916	9,677	10,695	4,673	8,758	37,047	24,105	48,144
1976	223,940	168,199	22,252	10,219	10,952	4,748	9,317	38,087	25,643	46,981
1977	227,698	169,516	22,505	10,556	10,365	4,604	9,567	38,603	25,703	47,613
1978 1/.....	225,072	165,537	22,158	10,511	9,804	4,926	9,598	38,122	24,963	45,455
1979	232,938	169,466	22,535	10,724	9,668	5,853	9,794	38,218	25,859	46,815
1980	239,647	172,176	22,918	10,969	9,902	6,587	9,980	37,928	26,678	47,214
1981	243,471	172,742	23,308	11,038	10,154	7,445	10,076	37,582	26,715	46,424
1982	246,046	172,537	24,040	11,436	10,823	9,171	9,891	37,989	25,812	44,375
1983	253,578	176,249	25,205	12,049	10,964	10,687	9,836	37,112	26,701	43,695
1984 2/.....	255,430	176,654	25,852	11,819	11,319	11,587	9,750	37,480	26,108	42,739
1985 2/.....	259,320	179,310	26,669	11,439	11,833	14,101	9,097	37,362	25,769	42,040
1986 2/.....	268,185	183,716	27,764	11,323	12,398	15,310	9,229	38,178	26,521	42,993
1987 2/.....	273,090	186,485	28,414	10,543	13,049	15,572	8,983	38,789	27,497	43,638
1988	277,859	189,243	28,574	10,296	13,523	15,596	8,986	39,772	28,480	44,016
1989	285,989	194,695	29,193	10,138	13,705	16,008	8,926	40,984	30,172	45,569
1990	295,836	201,074	29,573	10,295	13,870	16,872	8,961	41,685	30,992	48,826
Part-time										
1975	109,159	70,281	4,394	2,612	6,223	3,942	1,820	9,530	12,086	29,674
1976	110,634	70,891	4,379	2,815	6,140	3,879	1,837	9,845	11,815	30,181
1977	119,140	73,916	4,350	3,102	5,704	4,504	1,953	10,953	12,914	30,436
1978 1/.....	120,115	74,429	4,221	3,973	5,273	4,992	1,955	10,478	12,225	31,105
1979	126,851	78,050	4,165	3,130	5,595	5,837	2,275	10,285	13,918	33,945
1980	130,032	80,231	4,034	3,239	5,595	6,991	2,274	10,285	13,918	33,945
1981	134,425	80,751	4,074	3,844	5,558	6,992	2,274	10,285	13,918	33,945
1982	138,826	83,589	4,159	3,738	5,761	10,641	2,024	9,397	13,959	33,160
1983	140,313	81,361	4,261	3,495	6,233	12,929	2,423	9,321	14,270	32,661
1984 2/.....	142,581	81,729	4,512	3,793	6,159	14,223	2,424	8,943	14,338	28,508
1985 2/.....	148,475	84,461	4,426	3,106	6,780	15,743	2,283	8,691	16,966	27,373
1986 2/.....	150,917	83,700	4,496	3,840	6,592	16,115	2,100	9,038	15,030	27,508
1987 2/.....	152,060	84,503	4,324	3,979	6,524	16,565	2,021	8,663	15,391	28,036
1988	151,789	85,512	4,398	3,736	6,618	17,191	2,014	8,544	15,909	27,902
1989	153,952	86,537	4,435	3,710	6,677	16,838	2,112	8,633	16,132	29,000
1990	163,107	91,196	4,764	3,864	6,014	17,635	2,222	9,236	17,667	29,794

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-2. Science and engineering graduate students in all institutions
by enrollment status and field: 1975-90

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Page 2 of 2										
Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	68,360	1,670	5,336	12,560	16,320	11,663	8,601	2,352	9,858	25,990
1976	66,750	1,477	5,581	11,995	15,926	10,687	8,313	2,375	10,396	28,734
1977	69,113	1,518	5,580	12,683	17,406	10,438	8,722	2,559	10,207	34,293
1978 1/.....	68,661	1,460	5,751	12,771	17,365	9,569	8,704	2,569	10,472	36,560
1979	72,242	1,481	6,029	13,197	17,789	10,714	9,251	2,756	11,025	39,131
1980	75,053	1,737	6,518	13,471	19,227	9,870	9,888	2,910	11,432	42,219
1981	80,457	1,883	7,017	14,493	20,193	10,026	10,618	2,125	13,102	43,946
1982	84,581	1,941	7,775	14,510	22,017	9,870	11,467	2,124	13,877	44,165
1983	91,937	2,408	8,300	15,299	25,213	9,621	12,911	3,447	14,738	44,344
1984 2/.....	93,644	2,445	8,117	15,569	26,306	9,820	13,855	3,657	15,875	45,984
1985 2/.....	96,951	2,658	8,932	15,248	28,128	11,078	14,157	3,938	13,812	47,073
1986 2/.....	103,071	2,924	7,759	15,557	30,008	12,120	15,740	4,170	14,993	48,615
1987 2/.....	104,644	2,121	7,929	14,024	31,339	12,690	16,304	4,309	14,028	49,518
1988	103,719	2,318	7,360	15,022	31,960	11,849	16,233	4,272	13,705	51,574
1989	104,815	2,559	7,125	15,128	33,161	11,559	16,216	4,544	13,523	53,894
1990	109,299	4,006	7,404	15,891	33,887	11,816	16,879	4,822	14,594	57,574
Full-time										
1975	37,813	1,245	3,743	7,363	8,278	4,152	4,931	1,787	6,314	17,659
1976	36,950	1,165	4,014	7,025	8,147	4,578	4,919	1,860	6,242	18,791
1977	37,554	1,187	4,174	7,440	8,528	4,343	4,883	1,951	6,048	20,628
1978 1/.....	37,913	1,138	4,258	7,673	8,512	4,256	4,952	1,973	6,151	21,622
1979	40,378	1,522	4,555	7,998	9,039	4,743	5,428	2,135	6,328	23,094
1980	43,088	1,327	4,863	8,324	9,963	4,772	5,841	2,254	6,744	24,383
1981	46,244	1,483	5,382	9,195	10,450	4,642	6,422	2,454	7,216	24,685
1982	50,233	1,522	6,084	9,762	11,533	4,831	7,267	2,478	7,756	26,076
1983 1/.....	54,321	1,840	6,489	10,189	13,203	4,334	8,330	2,704	8,236	27,008
1984 2/.....	55,528	1,854	6,348	10,455	13,857	4,438	8,698	2,872	8,006	28,648
1985 2/.....	56,283	1,994	6,123	10,092	14,752	3,530	8,875	2,088	8,829	29,727
1986 2/.....	60,708	1,154	6,166	10,352	16,322	3,886	9,801	3,47	8,680	30,761
1987 2/.....	62,167	1,372	6,318	9,857	17,040	4,255	10,175	3,397	8,753	32,438
1988	63,400	1,533	5,958	10,157	17,653	4,399	10,438	4,221	8,841	33,216
1989	64,716	1,772	5,788	10,183	18,396	4,760	10,426	4,685	8,706	34,578
1990	66,547	3,010	5,937	10,445	18,710	4,966	10,843	5,848	8,788	38,215
Part-time										
1975	30,547	425	1,593	5,197	8,042	7,511	3,670	565	3,544	8,331
1976	29,800	312	1,567	4,970	7,779	7,109	3,394	515	4,154	9,943
1977	31,559	331	1,406	5,243	8,878	7,095	3,839	608	4,159	13,665
1978 1/.....	30,748	322	1,493	5,098	8,863	6,313	3,752	596	4,321	14,938
1979	31,864	329	1,474	5,199	8,750	6,971	3,823	621	4,697	16,037
1980	31,965	410	1,655	5,147	9,264	6,098	4,047	656	4,688	17,836
1981	34,213	400	1,635	5,298	9,743	6,384	4,196	671	5,886	19,461
1982	34,348	419	1,691	4,748	10,484	6,039	4,200	646	6,121	20,889
1983	37,616	568	1,811	5,114	12,010	6,287	4,581	743	6,502	21,336
1984 2/.....	38,116	591	1,769	5,114	12,449	6,382	5,157	785	6,869	22,736
1985 2/.....	40,668	664	1,809	5,156	13,376	7,548	5,282	850	5,983	23,446
1986 2/.....	42,363	770	1,593	5,005	13,686	8,234	5,939	823	6,313	24,854
1987 2/.....	42,477	749	1,611	5,067	14,299	8,435	6,129	912	5,275	25,080
1988	40,319	785	1,402	4,865	14,307	7,450	5,795	851	4,864	26,158
1989	40,099	787	1,337	4,945	14,765	6,799	5,790	859	4,817	27,316
1990	42,752	996	1,467	5,446	15,177	6,850	6,036	974	5,806	29,159

1/ Master's-granting institutions were not surveyed in 1978; totals include estimates based on 1977 and 1979 data.

2/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-3. Science and engineering graduate students in all institutions by sex and field: 1975-90

Page 1 of 2

Page 1 of										
Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	329,446	235,096	26,310	12,289	16,918	8,415	10,578	46,577	36,191	77,818
1976	334,574	239,090	26,631	13,034	17,092	8,627	11,154	47,932	37,458	77,162
1977	346,838	243,432	26,855	13,658	17,069	9,108	11,520	49,556	38,617	78,049
1978 1/.....	345,187	239,966	26,799	13,484	15,077	9,925	11,753	48,600	38,188	78,560
1979	359,789	248,416	26,700	13,854	15,063	11,690	12,069	48,503	39,777	80,760
1980	369,679	252,407	26,952	14,208	15,360	13,578	12,254	47,890	40,617	81,548
1981	377,896	253,493	27,382	14,422	15,915	16,437	12,100	46,979	40,672	79,584
1982	384,872	256,126	28,199	15,174	17,199	19,812	12,314	46,310	40,082	77,036
1983	393,891	257,610	29,466	15,544	17,397	23,616	12,290	46,055	41,039	72,203
1984 2/.....	398,011	258,383	30,066	15,612	17,478	25,810	12,062	46,171	41,074	70,112
1985	407,795	263,771	30,995	15,945	17,613	29,844	11,380	46,538	41,308	70,548
1986 2/.....	419,102	267,416	32,260	15,163	17,990	31,425	11,329	47,216	41,551	70,482
1987 2/.....	425,150	270,988	32,738	14,922	18,573	32,137	11,004	47,452	42,888	71,674
1988	429,648	274,555	32,972	14,032	19,141	32,787	11,038	48,319	44,389	71,918
1989	439,941	281,232	32,628	13,848	19,382	32,846	11,008	49,619	46,304	74,569
1990	458,943	292,270	34,337	14,159	19,884	34,507	11,183	50,921	48,659	78,620
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	245,817	169,062	22,816	11,307	11,944	7,549	9,453	32,712	20,518	52,763
1978 1/.....	238,381	162,969	22,176	10,910	11,129	8,090	9,438	31,330	19,445	50,451
1979	242,314	164,692	22,205	10,925	11,027	9,367	9,461	30,499	19,426	51,782
1980	244,742	164,132	22,552	10,940	11,272	10,691	9,447	29,492	19,058	51,110
1981	245,286	161,009	22,366	10,945	11,419	12,228	9,370	28,210	17,900	48,371
1982	247,879	160,987	22,776	11,393	12,109	14,366	9,314	27,021	16,977	47,031
1983	253,038	160,276	23,586	11,593	12,184	16,968	9,183	26,572	16,687	45,503
1984 2/.....	254,554	160,574	23,904	11,694	12,297	18,905	8,963	26,510	16,516	45,087
1985 2/.....	260,312	163,470	24,483	11,571	12,227	22,387	8,422	26,482	15,678	44,120
1986 2/.....	266,826	164,922	25,395	11,183	12,501	23,677	8,384	26,581	15,459	43,742
1987 2/.....	270,014	166,131	25,620	10,708	12,944	24,233	8,061	26,715	15,744	42,106
1988	268,292	165,719	25,473	10,164	13,348	24,564	7,927	26,768	15,643	41,832
1989	271,590	167,874	25,825	9,923	13,359	24,880	7,924	27,089	15,906	42,968
1990	279,492	171,954	26,223	9,994	13,646	26,316	7,865	27,502	15,963	44,445
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	101,021	74,370	4,039	2,351	4,125	1,559	2,067	16,844	18,099	25,286
1978 1/.....	106,806	76,997	4,203	2,574	3,948	1,835	2,315	17,270	18,743	26,109
1979	117,475	83,724	4,495	2,929	4,036	2,323	2,608	18,004	20,351	28,978
1980	124,937	88,275	4,600	3,268	4,088	3,087	2,807	18,398	21,589	30,438
1981	132,610	92,484	5,016	3,477	4,496	3,209	2,730	18,769	22,774	31,013
1982	136,993	95,139	5,423	3,781	5,090	3,446	2,000	19,289	23,105	30,005
1983	140,853	97,334	5,880	3,951	5,213	3,648	1,107	19,483	23,352	28,700
1984 2/.....	143,457	97,809	6,160	3,918	5,183	3,905	999	19,661	24,858	28,025
1985 2/.....	147,483	100,301	6,512	3,974	5,386	4,457	958	20,056	25,530	28,428
1986 2/.....	152,276	102,494	6,865	3,980	5,489	4,748	945	20,635	26,092	28,740
1987 2/.....	157,136	104,857	7,118	3,814	5,629	5,904	943	20,737	27,144	29,568
1988	161,356	108,836	7,499	3,868	5,793	6,223	1,114	21,548	28,746	30,086
1989	168,351	113,358	7,803	3,925	6,023	6,966	1,114	22,528	30,398	31,601
1990	179,451	120,316	8,114	4,165	6,238	8,191	3,318	23,419	32,696	34,175

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-3. Science and engineering graduate students in all institutions by sex and field: 1975-90

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Table 8-3. Enrollment in Engineering and Health Fields, by Year										
Year	Engineering								Health fields	
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering		Other engi- neering
Total enrollment										
1975	68,360	1,670	5,336	12,560	16,320	11,663	8,601	2,352	9,858	25,990
1976	66,750	1,477	5,281	11,995	15,926	10,687	8,313	2,175	10,396	28,734
1977	69,113	1,518	5,280	12,683	17,406	10,438	8,722	2,559	10,207	34,293
1978 1/	68,661	1,460	5,251	12,771	17,365	9,569	8,704	2,560	10,472	36,560
1979	72,242	1,481	6,029	13,197	17,789	10,714	9,251	2,561	11,025	39,131
1980	75,053	1,737	6,518	13,471	19,227	9,870	9,888	2,910	11,432	42,219
1981	80,457	1,883	7,017	14,493	20,193	10,026	10,618	3,125	13,102	43,946
1982	84,581	1,941	7,517	14,493	20,193	10,026	10,618	3,124	13,877	44,165
1983	88,457	2,083	7,775	14,510	22,017	9,870	10,618	3,124	14,738	44,344
1984 2/	91,937	2,408	8,300	15,299	25,213	9,621	12,911	3,657	13,875	45,984
1985 2/	93,644	2,445	8,117	15,569	26,506	9,820	13,855	3,938	13,812	47,073
1986 2/	96,951	2,558	7,932	15,248	28,128	11,078	14,157	4,170	14,993	48,615
1987 2/	103,071	2,924	7,759	15,357	30,008	12,120	15,740	4,309	14,028	49,518
1988	104,644	3,121	7,929	14,924	31,339	12,690	16,304	4,272	13,705	51,374
1989	103,719	3,118	7,360	15,022	31,960	11,849	16,533	4,544	13,523	52,894
1990	104,815	3,559	7,125	15,128	33,161	11,259	16,879	4,822	14,594	57,374
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	65,291	1,485	5,192	11,736	16,696	9,683	8,449	2,376	9,674	11,464
1978 1/	64,009	1,421	5,255	11,598	16,564	8,685	8,358	2,346	9,782	11,403
1979	66,224	1,432	5,384	11,741	16,856	9,463	8,782	2,468	10,098	11,398
1980	68,565	1,663	5,798	11,957	18,244	8,520	9,354	2,607	10,422	12,045
1981	72,515	1,816	6,187	12,765	18,917	8,466	9,987	2,735	11,662	11,742
1982	75,615	1,831	6,832	12,608	20,466	8,216	10,748	2,704	12,110	11,277
1983	81,958	2,283	7,212	13,297	23,157	8,044	12,106	2,999	12,860	10,804
1984 2/	83,109	2,311	7,085	13,402	23,112	8,082	12,106	3,189	12,029	10,871
1985 2/	85,619	2,490	6,862	13,975	25,719	8,135	12,899	3,207	11,957	11,223
1986 2/	90,402	2,722	6,672	15,055	27,104	9,859	14,578	3,604	12,905	11,502
1987 2/	91,555	2,895	6,721	15,746	28,263	10,344	15,015	3,640	11,967	12,328
1988	90,394	3,086	6,236	15,657	28,705	9,618	14,812	3,753	11,740	12,179
1989	91,015	3,314	6,068	15,624	29,661	9,331	14,807	3,753	11,457	12,701
1990	94,338	3,714	6,227	13,105	30,107	9,569	15,419	3,978	12,219	13,200
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	3,822	33	388	947	710	755	273	183	533	22,829
1978 1/	4,652	39	496	1,173	801	884	346	223	690	25,157
1979	6,018	49	645	1,456	933	1,251	469	288	927	27,733
1980	6,488	74	720	1,514	983	1,350	534	303	1,010	30,174
1981	7,922	67	830	1,728	1,276	1,560	719	390	1,440	32,204
1982	8,966	110	943	1,902	1,551	1,654	805	420	1,667	32,888
1983	9,979	125	1,088	2,002	2,056	1,777	805	448	1,878	33,340
1984 2/	10,535	134	1,032	2,167	2,194	1,738	956	468	1,846	35,850
1985 2/	11,332	168	1,070	2,276	2,409	1,943	1,011	600	1,855	37,113
1986 2/	12,669	202	1,087	2,302	2,904	2,261	1,162	663	2,088	37,190
1987 2/	13,089	226	1,208	2,178	3,076	2,346	1,281	705	2,061	39,195
1988	13,325	232	1,124	2,365	3,255	2,231	1,421	732	1,965	41,193
1989	13,800	245	1,057	2,504	3,500	2,228	1,409	791	2,066	44,174
1990	14,961	292	1,177	2,786	3,780	2,247	1,460	844	2,375	

1/ Master's-granting institutions were not surveyed and sex data were not requested in 1978; totals represent estimates based on 1977 and 1979 data.

2/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-4. Full-time science and engineering graduate students in all institutions by sex and field: 1975-90

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Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	220,287	164,815	21,916	9,677	10,695	4,473	8,758	37,047	24,105	48,144
1976	223,940	168,199	22,252	10,219	10,952	4,748	9,317	38,087	25,643	46,981
1977	227,698	169,516	22,505	10,556	10,365	4,604	9,567	38,603	25,703	47,613
1978 1/.....	255,072	165,537	22,158	10,511	9,804	4,926	9,598	38,122	24,963	45,452
1979	232,938	169,466	22,535	10,724	9,668	4,853	9,794	38,218	25,859	46,815
1980	239,647	172,176	23,018	10,969	9,902	5,587	9,980	37,928	26,678	47,214
1981	243,471	172,742	23,308	11,038	10,154	7,445	10,076	37,582	26,715	46,424
1982	246,046	172,537	23,040	11,436	10,823	9,171	9,891	36,989	25,812	44,375
1983	253,578	176,249	25,205	12,049	10,964	10,687	9,836	37,112	26,701	43,695
1984 2/.....	255,430	176,654	25,852	11,819	11,319	11,587	9,750	37,480	26,108	43,739
1985 2/.....	259,320	179,310	26,669	11,439	11,833	14,101	9,097	37,362	26,769	43,040
1986 2/.....	268,185	183,716	27,764	11,323	12,398	15,310	9,229	38,178	27,251	42,995
1987 2/.....	273,090	186,485	28,414	10,543	13,049	15,572	8,983	38,789	27,977	43,638
1988	277,859	189,243	28,574	10,296	13,523	15,596	8,986	39,772	28,480	44,016
1989	285,989	194,695	29,193	10,138	13,705	16,008	8,926	40,984	30,172	45,569
1990	295,836	201,074	29,573	10,295	13,870	16,872	8,961	41,685	30,992	48,826
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	164,013	121,443	19,205	8,551	8,476	4,006	7,843	26,309	14,591	32,462
1977	162,498	119,638	19,293	8,731	8,083	3,845	7,798	25,996	13,949	31,043
1978 1/.....	157,722	115,003	18,862	8,506	7,625	4,076	7,662	25,121	13,171	29,980
1979	160,352	115,720	19,044	8,471	7,498	4,803	7,645	24,621	13,279	30,359
1980	161,636	114,623	19,215	8,451	7,595	5,184	7,644	23,968	12,780	29,786
1981	162,315	113,239	19,307	8,429	7,613	5,718	7,735	23,390	12,065	28,982
1982	163,990	112,100	19,641	8,608	8,029	6,860	7,431	22,340	11,281	27,910
1983	169,074	113,655	20,371	9,038	8,044	8,038	7,348	22,211	11,405	27,200
1984 2/.....	169,937	113,753	20,755	8,929	8,332	8,825	7,216	22,253	10,756	26,687
1985 2/.....	172,113	115,294	21,241	8,574	8,615	11,051	6,734	22,029	10,356	26,694
1986 2/.....	177,801	117,314	22,023	8,390	8,998	11,975	6,853	22,226	10,332	26,517
1987 2/.....	180,614	118,231	22,384	7,826	9,491	12,245	6,631	22,434	10,484	26,736
1988	181,181	117,969	22,208	7,506	9,808	12,197	6,539	22,773	10,315	26,623
1989	184,434	119,930	22,535	7,347	9,769	12,706	6,450	23,132	10,669	27,322
1990	188,420	122,274	22,728	7,345	9,827	13,372	6,352	23,241	10,757	28,652
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	59,927	46,756	3,047	1,668	2,476	742	1,474	11,778	11,052	14,519
1977	65,200	49,878	3,212	1,825	2,282	759	1,769	12,607	11,754	15,670
1978 1/.....	67,300	50,534	3,296	2,005	2,179	850	1,936	13,001	11,792	15,475
1979	72,586	53,746	3,491	2,253	2,170	1,050	2,149	13,597	12,580	16,456
1980	78,011	57,553	3,703	2,518	2,307	1,403	2,336	13,960	13,898	17,428
1981	81,156	59,503	4,001	2,609	2,541	1,727	2,341	14,192	14,650	17,442
1982	82,056	60,437	4,399	2,828	2,794	2,311	2,460	14,649	14,531	16,465
1983	84,504	62,594	4,834	3,011	3,020	2,649	2,488	14,901	15,296	16,495
1984 2/.....	85,493	62,901	5,097	3,890	3,987	2,762	2,534	15,227	15,552	16,052
1985 2/.....	87,207	64,016	5,428	3,865	3,218	3,050	2,563	15,333	15,413	16,346
1986 2/.....	90,384	66,402	5,741	3,933	3,400	3,335	2,576	15,952	16,189	16,476
1987 2/.....	92,476	68,254	6,030	3,717	3,558	3,327	2,552	16,355	17,013	16,902
1988	96,678	71,274	6,366	3,790	3,715	3,399	2,447	16,999	18,165	17,393
1989	101,555	74,765	6,658	3,791	3,936	3,302	2,476	17,852	19,503	18,247
1990	107,416	78,800	6,845	2,950	4,043	3,500	2,609	18,444	20,235	20,174

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-4. Full-time science and engineering graduate students in all institutions by sex and field: 1975-90

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Page 2 of 2										
Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	37,813	1,245	3,743	7,363	8,278	4,152	4,931	1,787	6,314	17,659
1976	36,950	1,165	4,014	7,025	8,147	3,578	4,919	1,860	6,242	18,791
1977	37,554	1,187	4,174	7,440	8,528	3,433	4,883	1,951	6,048	20,628
1978 1/.....	37,913	1,138	4,258	7,673	8,512	3,256	4,952	1,973	6,111	21,622
1979	40,378	1,152	4,555	7,998	9,039	3,743	5,428	2,135	6,328	23,094
1980	43,088	1,327	4,863	8,324	9,963	3,772	5,841	2,254	6,744	24,383
1981	46,244	1,483	5,382	9,195	10,450	3,642	6,422	2,454	7,216	24,485
1982	50,233	1,522	6,084	9,762	11,533	3,831	7,267	2,478	7,756	23,276
1983	54,321	1,840	6,489	10,185	13,203	3,334	8,330	2,704	8,236	23,008
1984 2/.....	55,528	1,854	6,348	10,455	13,857	3,438	8,698	2,872	8,006	23,648
1985 2/.....	56,283	1,994	6,123	10,092	14,752	3,530	8,875	2,088	7,829	23,727
1986 2/.....	60,708	2,154	6,166	10,352	16,322	3,886	9,801	2,347	8,680	23,761
1987 2/.....	62,167	2,372	6,318	9,857	17,040	4,255	10,175	2,397	8,753	24,438
1988	63,400	2,533	6,958	10,157	17,653	4,399	10,438	2,421	8,841	25,216
1989	64,716	2,772	7,788	10,183	18,396	4,760	10,426	2,685	8,706	26,578
1990	66,547	3,010	8,937	10,445	18,710	4,966	10,843	3,848	8,788	28,215
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	34,924	1,142	3,771	6,512	7,850	3,199	4,797	1,751	5,902	7,646
1977	35,176	1,160	4,885	6,780	8,146	3,967	4,742	1,809	5,687	7,584
1978 1/.....	35,082	1,108	4,902	6,849	8,109	3,828	4,769	1,805	5,712	7,587
1979	36,807	1,116	4,097	6,967	8,585	3,164	5,170	1,922	5,786	7,825
1980	39,080	1,273	4,371	7,276	9,405	3,105	5,525	2,023	6,102	7,933
1981	41,665	1,432	4,815	7,916	9,739	3,966	6,075	2,167	6,375	7,611
1982	44,826	1,449	5,379	8,369	10,715	3,059	6,834	2,170	6,851	7,064
1983	48,567	1,760	5,657	8,748	12,248	3,714	7,847	2,380	7,213	6,852
1984 2/.....	49,343	1,768	5,564	8,878	12,711	3,806	8,137	2,518	6,961	6,841
1985 2/.....	49,868	1,868	5,322	8,671	13,553	3,879	8,316	2,652	6,807	6,951
1986 2/.....	53,567	2,006	5,340	8,710	14,851	3,135	9,173	2,836	7,516	6,920
1987 2/.....	54,807	2,205	5,401	8,388	15,498	3,495	9,450	2,845	7,525	7,576
1988	55,680	2,365	5,135	8,521	15,979	3,637	9,602	2,858	7,583	7,532
1989	56,470	2,592	4,972	8,465	16,582	3,834	9,570	3,060	7,395	8,034
1990	57,726	2,811	5,017	8,574	16,731	4,022	9,986	3,194	7,391	8,420
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	2,026	23	243	513	297	379	122	109	340	11,145
1977	2,378	27	289	660	382	376	141	142	361	12,944
1978 1/.....	2,831	30	356	824	403	428	183	168	439	13,935
1979	3,571	36	458	1,031	454	579	258	213	542	15,269
1980	4,008	54	492	1,048	558	667	316	231	642	16,450
1981	4,779	51	567	1,279	711	696	347	287	841	16,874
1982	5,407	73	705	1,393	818	772	433	308	905	16,212
1983	5,754	80	832	1,437	955	620	483	324	1,023	16,156
1984 2/.....	6,185	86	784	1,577	1,146	632	561	354	1,045	16,407
1985 2/.....	6,415	126	801	1,621	1,199	651	559	436	1,022	16,776
1986 2/.....	7,141	148	826	1,642	1,471	751	628	511	1,164	16,841
1987 2/.....	7,360	167	917	1,469	1,542	760	725	552	1,228	16,862
1988	7,720	168	823	1,636	1,674	762	836	563	1,258	17,684
1989	8,246	180	816	1,718	1,814	926	856	625	1,311	18,544
1990	8,821	199	920	1,871	1,979	944	857	654	1,397	19,795

1/ Master's-granting institutions were not surveyed and sex data were not requested in 1978; totals represent estimates based on 1977 and 1979 data.

2/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-5. Full-time science and engineering graduate students in all institutions by citizenship and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	220,287	164,815	21,916	9,677	10,695	4,473	8,758	37,047	24,105	48,144
1976	223,940	168,199	22,252	10,219	10,952	4,748	9,317	38,087	25,643	49,981
1977	227,698	169,516	22,505	10,556	10,365	4,604	9,567	38,603	25,703	47,613
1978	225,072	165,537	22,158	10,511	9,804	4,926	9,598	38,122	24,963	45,455
1979	232,938	169,466	22,535	10,724	9,668	5,853	9,794	38,218	25,859	46,815
1980	239,647	172,176	22,918	10,969	9,902	6,587	9,980	37,928	26,678	47,214
1981	243,471	172,742	23,308	11,038	10,154	7,445	10,076	37,582	26,715	46,424
1982	246,046	172,537	24,040	11,436	10,823	9,171	9,891	36,989	25,812	44,375
1983	253,578	176,269	25,205	12,049	10,964	10,687	9,836	37,112	26,701	43,695
1984	255,430	176,654	25,852	11,819	11,319	11,587	9,750	37,480	26,108	42,739
1985	259,320	179,310	26,669	11,439	11,833	14,101	9,097	37,362	25,769	43,040
1986	268,185	183,716	27,764	11,323	12,398	15,310	7,229	38,178	26,521	42,993
1987	273,090	186,485	28,414	10,543	13,049	15,572	8,983	38,789	27,497	43,638
1988	277,859	189,243	28,574	10,296	13,523	15,596	8,986	39,772	28,480	44,016
1989	285,989	194,695	29,193	10,138	13,705	16,008	8,926	40,984	30,172	45,569
1990	295,836	201,074	29,573	10,295	13,870	16,872	8,961	41,685	30,992	48,826
U.S. citizens										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1980	189,172	141,742	17,174	9,570	6,648	4,521	7,754	33,340	25,468	37,267
1981	188,782	140,009	17,037	9,534	6,513	4,887	7,701	32,727	25,711	35,899
1982	188,409	138,622	17,555	9,789	6,935	5,981	7,508	31,950	24,733	34,171
1983	191,391	139,341	17,973	10,358	6,722	7,724	7,368	31,579	25,607	33,010
1984	191,703	138,575	18,250	10,224	6,781	7,052	7,329	31,660	25,063	32,216
1985	190,873	137,561	18,186	9,748	7,009	8,551	6,759	30,990	24,608	31,710
1986	192,821	138,164	18,266	9,432	7,253	9,176	6,685	30,943	25,351	31,058
1987	194,049	138,309	18,386	8,575	7,555	9,087	6,366	30,691	26,282	31,367
1988	193,979	138,058	18,090	8,116	7,749	8,776	6,376	30,669	27,149	31,133
1989	198,912	141,338	18,063	7,813	7,717	8,941	6,359	30,838	28,811	32,796
1990	205,026	145,149	17,898	7,827	8,076	8,932	6,287	30,850	29,494	35,785
Non-U.S. citizens										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1980	50,475	30,434	5,744	1,399	3,254	2,066	2,226	4,588	1,210	9,947
1981	54,689	32,733	6,271	1,504	3,641	2,558	2,375	4,855	1,004	10,525
1982	57,637	33,915	6,485	1,647	3,888	3,190	2,383	5,039	1,079	10,204
1983	62,187	36,908	7,232	1,691	4,242	3,963	2,468	5,533	1,094	10,685
1984	63,727	38,079	7,602	1,595	4,538	4,535	2,421	5,820	1,045	10,523
1985	68,447	41,749	8,483	1,691	4,824	5,550	2,338	6,372	1,161	11,330
1986	75,364	45,552	9,498	1,891	5,145	6,134	2,544	7,235	1,170	11,935
1987	79,041	48,176	10,028	1,968	5,494	6,485	2,617	8,098	1,215	12,271
1988	83,880	51,185	10,484	2,180	5,774	6,820	2,610	9,103	1,331	12,883
1989	87,077	53,357	11,130	2,325	5,988	7,067	2,567	10,146	1,361	12,773
1990	90,810	55,925	11,675	2,468	5,794	7,940	2,674	10,835	1,498	13,041

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-5. Full-time science and engineering graduate students in all institutions by citizenship and field: 1975-90

Page 2 of 2

Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
	Total enrollment									
1975	37,813	1,245	3,743	7,363	8,278	4,152	4,931	1,787	6,314	17,659
1976	36,950	1,165	4,014	7,025	8,147	4,578	4,919	1,860	6,242	18,791
1977	37,554	1,187	4,174	7,440	8,528	4,343	4,883	1,951	6,048	20,628
1978 1/.....	37,913	1,138	4,258	7,673	8,512	4,526	4,952	1,973	6,151	21,622
1979	40,378	1,152	4,555	7,908	9,039	4,743	5,428	1,135	6,128	23,094
1980	43,088	1,327	4,863	8,324	9,963	5,772	5,841	1,254	6,744	24,383
1981	46,244	1,483	5,382	9,195	10,450	6,442	6,422	1,454	7,216	24,485
1982	50,233	1,522	6,084	9,762	11,533	6,831	7,267	1,478	7,756	25,276
1983	54,321	1,840	6,489	10,185	13,203	7,334	8,330	1,704	8,236	25,008
1984 2/.....	55,528	1,854	6,348	10,455	13,857	7,334	8,698	1,704	8,006	25,248
1985 2/.....	56,283	1,994	6,123	10,092	14,752	7,310	8,801	1,747	8,229	25,727
1986 2/.....	60,708	2,154	6,166	10,352	16,322	7,886	9,801	1,888	8,680	25,761
1987 2/.....	62,167	2,372	6,318	9,857	17,040	7,255	10,175	1,997	8,753	24,438
1988	63,400	2,533	5,958	10,157	17,653	7,399	10,438	1,421	8,841	25,216
1989	64,716	2,772	5,788	10,183	18,396	7,760	10,426	1,685	8,706	26,578
1990	66,547	3,010	5,937	10,445	18,710	7,966	10,843	1,848	8,788	28,215
U.S. citizens										
1975 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1980	25,092	759	2,660	4,952	5,666	2,316	3,211	1,147	4,381	22,338
1981	26,434	882	2,985	5,459	5,665	2,047	3,363	1,342	4,691	22,339
1982	28,812	945	3,483	5,714	6,421	2,205	3,767	1,297	4,980	20,975
1983	31,450	1,088	3,960	5,820	7,363	1,962	4,327	1,530	5,400	20,600
1984 2/.....	32,223	1,115	3,930	5,948	7,861	1,967	4,591	1,663	5,148	20,905
1985 2/.....	32,127	1,258	3,664	5,568	8,113	1,907	4,858	1,802	4,957	21,185
1986 2/.....	33,597	1,343	3,717	5,572	8,609	2,085	5,226	1,841	5,204	21,060
1987 2/.....	34,063	1,559	3,688	5,240	8,959	2,191	5,526	1,803	5,097	21,677
1988	33,783	1,502	3,204	5,359	9,274	2,284	5,514	1,778	5,068	22,138
1989	34,272	1,757	2,884	5,251	9,693	2,470	5,576	1,869	4,772	23,302
1990	35,211	1,920	2,857	5,585	9,770	2,580	5,785	2,003	4,711	24,666
Non-U.S. citizens										
1975 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979 3/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1980	17,996	568	2,203	3,372	4,297	1,456	2,630	1,107	2,363	2,045
1981	19,810	601	2,597	3,736	4,785	1,595	3,059	1,112	2,325	2,146
1982	21,421	577	2,501	4,048	5,112	1,626	3,500	1,181	2,776	3,301
1983	22,871	752	2,529	4,365	5,840	1,372	3,003	1,174	2,836	4,088
1984 2/.....	23,305	739	2,118	4,507	5,996	1,471	4,107	1,209	2,858	3,433
1985 2/.....	24,156	736	2,459	4,524	6,639	1,623	4,017	1,286	2,872	3,542
1986 2/.....	27,111	811	2,449	4,780	7,713	1,801	4,575	1,506	2,701	3,701
1987 2/.....	28,104	813	2,630	4,617	8,081	2,064	4,649	1,594	2,656	3,761
1988	29,617	1,031	2,754	4,798	8,379	2,115	5,124	1,643	2,773	3,078
1989	30,444	1,015	2,904	4,932	8,703	2,290	4,850	1,816	2,934	3,276
1990	31,336	1,090	3,080	4,860	8,940	2,386	5,058	1,845	4,077	3,549

1/ Master's-granting institutions were not surveyed and sex data were not requested in 1978; totals represent estimates based on 1977 and 1979 data.

2/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

3/ Data on citizenship distribution were not requested before 1980.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-6. Part-time science and engineering graduate students in all institutions by sex and field: 1975-90

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Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	109,159	70,281	4,394	2,612	6,223	3,942	1,820	9,530	12,086	29,674
1976	110,634	70,891	4,379	2,815	6,140	3,879	1,837	9,845	11,815	30,181
1977	119,140	73,916	4,350	3,102	5,704	4,504	1,953	10,953	12,914	30,436
1978	120,115	74,429	4,221	3,973	5,273	4,999	2,155	10,478	13,225	31,105
1979	126,851	78,950	4,165	3,130	5,395	5,837	2,275	10,285	13,918	33,945
1980	130,032	80,231	4,034	2,339	5,458	6,991	2,274	9,962	13,939	34,334
1981	134,425	80,751	4,074	3,384	5,761	8,992	2,024	9,397	13,959	35,160
1982	138,826	83,589	4,159	3,738	6,376	10,641	2,423	9,321	14,270	36,661
1983	140,313	81,361	4,261	3,495	6,433	12,929	2,454	8,943	14,338	38,508
1984	142,581	81,729	4,212	3,793	6,159	14,223	2,312	8,691	14,966	37,373
1985	148,475	84,461	4,326	3,106	5,780	15,743	2,283	9,176	15,539	37,489
1986	150,917	83,700	4,496	3,840	5,592	16,115	2,100	9,038	15,030	38,036
1987	152,060	84,503	4,324	3,979	5,524	16,565	2,021	8,663	15,391	38,236
1988	151,789	85,312	4,398	3,736	5,618	17,191	2,014	8,544	15,909	37,902
1989	153,952	86,537	4,435	3,710	5,677	16,838	2,112	8,633	16,132	39,000
1990	163,107	91,196	4,764	3,864	6,014	17,635	2,222	9,236	17,667	39,794
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	83,319	49,424	3,523	2,576	5,861	3,704	1,655	6,716	6,569	20,620
1978	80,609	47,966	3,314	2,404	5,504	4,014	1,716	6,209	6,274	20,471
1979	81,962	48,972	3,161	2,454	5,529	4,364	1,816	6,878	6,147	21,423
1980	83,106	49,509	3,137	2,489	5,677	5,107	1,803	6,524	6,248	21,324
1981	82,971	47,770	3,059	2,516	5,806	6,510	1,635	6,820	6,835	19,589
1982	83,889	48,887	3,135	2,785	5,080	7,506	1,883	6,681	6,996	19,121
1983	83,964	46,621	2,115	2,553	5,140	8,930	1,835	6,361	6,282	16,303
1984	84,617	46,821	1,499	2,765	5,963	10,080	1,747	6,257	6,460	15,400
1985	88,199	48,176	2,242	2,997	5,612	11,336	1,688	6,453	6,422	15,426
1986	89,025	47,608	2,372	2,793	5,503	11,702	1,531	6,355	6,127	15,225
1987	89,400	47,900	2,366	2,882	5,553	11,988	1,430	6,281	6,260	15,370
1988	87,111	47,750	2,265	2,658	5,540	12,367	1,388	6,905	6,328	15,209
1989	87,156	47,944	2,290	2,576	5,590	12,174	1,474	6,957	6,237	15,646
1990	91,072	49,680	3,495	2,649	5,819	12,944	1,513	6,261	6,206	15,793
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	35,821	24,492	827	526	1,843	800	298	4,237	6,345	9,616
1978	39,506	26,463	907	569	1,769	985	379	4,269	6,951	10,634
1979	44,889	29,978	1,004	676	1,866	1,273	459	4,407	7,771	12,222
1980	46,926	30,722	897	750	1,781	1,684	471	4,438	7,691	13,010
1981	51,454	32,981	1,015	868	1,955	2,482	389	4,577	8,124	13,571
1982	54,937	34,702	1,024	953	2,296	3,135	540	4,640	8,574	13,340
1983	56,349	34,740	1,046	940	2,293	3,999	619	4,582	9,056	12,205
1984	57,964	34,908	1,063	1,028	2,196	4,143	565	4,434	9,506	11,973
1985	60,276	36,285	1,084	1,109	2,168	4,407	595	4,723	10,117	12,082
1986	61,892	36,092	1,124	1,047	2,089	4,413	569	4,683	9,903	12,264
1987	62,660	36,603	1,088	1,097	2,071	4,577	591	4,382	10,131	12,666
1988	64,678	37,562	1,133	1,078	2,078	4,824	626	4,549	10,581	12,693
1989	66,796	38,593	1,145	1,134	2,087	4,664	638	4,676	10,895	13,354
1990	72,035	41,516	1,269	1,215	2,195	4,691	709	4,975	12,461	14,001

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-6. Part-time science and engineering graduate students in all institutions by sex and field: 1975-90

Page 2 of 2

Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
	Total enrollment									
1975	30,547	425	1,593	5,197	8,042	7,511	3,670	565	3,544	8,331
1976	29,800	312	1,567	4,970	7,779	7,109	3,394	515	3,544	9,943
1977	31,559	331	1,406	5,243	8,878	7,095	3,839	608	4,159	13,665
1978 1/.....	30,748	322	1,493	5,098	8,853	6,313	3,752	596	4,321	14,938
1979	31,864	329	1,474	5,199	8,750	6,971	3,823	621	4,697	16,037
1980	31,965	410	1,655	5,147	9,264	6,098	4,047	656	4,688	17,836
1981	34,213	400	1,635	5,298	9,743	6,384	4,196	671	5,886	19,461
1982	34,348	419	1,691	4,748	10,484	6,039	4,200	646	6,121	20,889
1983	37,616	568	1,811	5,114	12,010	6,287	4,581	743	6,502	21,336
1984 2/.....	38,116	591	1,769	5,114	12,449	6,382	5,157	785	5,869	22,736
1985 2/.....	40,668	664	1,809	5,156	13,376	7,548	5,282	850	5,983	23,346
1986 2/.....	42,363	770	1,593	5,005	13,686	8,234	5,939	823	6,313	24,854
1987 2/.....	42,477	749	1,611	5,067	14,299	8,435	6,129	912	5,275	25,080
1988	40,319	785	1,402	4,865	14,307	7,450	5,795	851	4,864	26,158
1989	40,099	787	1,337	4,945	14,765	7,799	5,790	859	4,817	27,316
1990	42,752	996	1,467	5,446	15,177	6,850	6,036	974	5,806	29,159
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	30,115	325	1,307	4,956	8,550	6,716	3,707	567	3,987	3,780
1978 1/.....	28,927	313	1,353	4,749	8,455	5,857	3,589	541	4,070	3,716
1979	29,417	316	1,287	4,774	8,271	6,299	3,612	546	4,312	3,573
1980	29,485	390	1,427	4,681	8,839	6,415	3,829	584	4,320	4,112
1981	31,070	384	1,372	4,849	9,178	6,520	3,912	568	5,287	4,131
1982	31,789	382	1,423	4,239	9,751	6,157	3,914	534	5,359	4,213
1983	33,391	523	1,521	4,549	10,909	6,330	4,259	619	5,647	3,952
1984 2/.....	33,766	543	1,521	4,524	11,401	6,276	4,762	671	5,068	4,030
1985 2/.....	35,751	622	1,540	4,501	12,166	6,256	4,830	686	5,150	4,272
1986 2/.....	36,835	716	1,332	4,365	12,253	6,724	4,405	671	5,389	4,582
1987 2/.....	36,748	690	1,320	4,358	12,765	6,849	5,565	759	4,442	4,752
1988	34,714	721	1,101	4,136	12,726	5,981	5,210	682	4,157	4,647
1989	34,545	722	1,096	4,159	13,079	5,497	5,237	693	4,062	4,667
1990	36,612	903	1,210	4,531	13,376	5,547	5,433	784	4,828	4,780
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	1,444	6	99	287	328	379	132	41	172	9,885
1978 1/.....	1,821	9	140	349	398	456	163	55	251	11,222
1979	2,447	13	187	425	479	672	211	75	385	12,464
1980	2,480	20	228	466	425	683	218	72	368	13,724
1981	3,143	16	263	449	565	864	284	103	599	15,330
1982	3,559	37	238	509	733	882	286	112	762	16,676
1983	4,225	45	256	565	1,101	957	322	124	855	17,384
1984 2/.....	4,350	48	248	590	1,048	1,106	395	114	801	18,706
1985 2/.....	4,917	42	269	655	1,210	1,292	452	164	833	19,074
1986 2/.....	5,528	54	261	660	1,433	1,510	534	152	924	20,272
1987 2/.....	5,729	59	291	709	1,534	1,586	564	153	833	20,328
1988	5,605	64	301	729	1,581	1,469	585	169	707	21,511
1989	5,554	65	241	786	1,686	1,302	553	166	755	22,649
1990	6,140	93	257	915	1,801	1,303	603	190	978	24,379

1/ Master's-granting institutions were not surveyed and sex data were not requested in 1978; totals represent estimates based on 1977 and 1979 data.

2/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-7. Science and engineering graduate students in historically black colleges and universities by enrollment status and field: 1975-90

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Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	2,315	1,978	231	14	210	45	49	491	250	688
1976	2,677	2,442	245	21	244	100	53	650	303	826
1977	2,899	2,635	277	28	207	129	78	625	265	1,026
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	3,212	2,873	244	23	138	135	105	665	274	1,289
1980	3,189	2,796	248	30	154	139	72	640	291	1,222
1981	3,391	3,007	284	23	168	150	83	610	268	1,421
1982	3,269	2,836	288	31	206	232	87	605	227	1,160
1983	3,446	2,958	319	32	235	271	82	593	384	1,042
1984	3,875	3,288	347	39	266	320	109	536	436	1,235
1985	3,587	3,062	320	34	240	304	66	479	404	1,215
1986	3,454	2,916	299	19	265	279	55	447	419	1,133
1987	3,202	2,707	300	16	259	229	52	409	374	1,068
1988	3,474	2,939	328	36	252	277	64	414	443	1,125
1989	3,373	2,789	336	27	255	290	66	447	440	928
1990	3,628	3,025	340	48	179	404	131	460	448	1,015
Full-time										
1975	1,628	1,403	182	6	80	7	34	372	167	555
1976	1,785	1,638	194	11	95	45	39	459	193	602
1977	1,847	1,683	225	20	70	55	44	471	162	636
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	2,047	1,819	197	16	56	81	60	519	175	715
1980	2,205	1,933	212	20	101	96	41	491	178	794
1981	2,411	2,146	255	18	120	87	42	479	153	992
1982	2,230	1,929	256	29	111	153	46	487	120	727
1983	2,231	1,912	271	27	137	185	39	511	132	610
1984	2,357	1,982	258	25	139	202	79	422	173	684
1985	2,335	1,927	262	25	141	212	27	369	159	732
1986	2,151	1,832	239	7	143	206	26	348	183	680
1987	2,091	1,726	244	9	168	163	36	325	163	618
1988	2,285	1,877	272	18	169	209	41	299	202	667
1989	2,082	1,642	217	17	160	169	45	339	197	498
1990	2,139	1,753	217	24	95	216	106	354	175	566
Part-time										
1975	687	575	49	8	130	38	15	119	83	133
1976	892	804	51	10	149	55	14	191	110	224
1977	1,052	952	52	8	137	74	34	154	103	390
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	1,165	1,054	47	7	82	54	45	146	99	574
1980	984	863	36	10	53	43	31	149	113	428
1981	980	861	29	5	48	63	41	131	115	429
1982	1,039	907	32	2	95	79	41	118	107	433
1983	1,215	1,046	48	5	98	86	43	82	252	432
1984	1,518	1,306	89	14	127	118	30	114	263	551
1985	1,252	1,135	58	9	99	92	39	110	245	483
1986	1,303	1,084	60	12	122	73	29	99	236	453
1987	1,111	981	56	7	91	66	16	84	211	450
1988	1,189	1,062	56	18	83	68	23	115	241	458
1989	1,291	1,147	119	10	95	121	21	108	243	430
1990	1,489	1,272	123	24	84	188	25	106	273	449

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-7. Science and engineering graduate students in historically black colleges and universities by enrollment status and field: 1975-90

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Page 2 of 2

Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	180	0	0	67	28	28	34	0	23	157
1976	148	0	0	67	29	0	35	0	17	87
1977	155	0	0	39	69	0	25	0	22	109
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	212	0	0	79	26	0	21	0	86	127
1980	264	0	0	85	46	26	22	0	85	129
1981	242	0	0	53	66	7	30	0	86	142
1982	267	0	0	44	64	8	30	0	121	166
1983	311	0	0	47	94	23	47	0	100	177
1984	405	0	0	65	131	37	93	0	79	182
1985	342	0	0	46	121	20	81	0	74	183
1986	374	0	0	47	61	0	63	0	203	164
1987	335	0	0	52	129	10	65	0	79	160
1988	380	0	0	57	111	26	102	0	84	155
1989	383	0	0	72	129	26	72	0	84	201
1990	394	0	0	60	132	28	100	0	74	209
Full-time										
1975	135	0	0	51	13	28	30	0	13	90
1976	109	0	0	53	19	0	30	0	7	38
1977	105	0	0	23	48	0	19	0	15	59
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	159	0	0	66	17	0	16	0	60	69
1980	191	0	0	68	37	16	17	0	53	81
1981	170	0	0	43	59	7	25	0	36	95
1982	192	0	0	31	57	8	26	0	70	109
1983	195	0	0	34	84	10	34	0	33	124
1984	258	0	0	38	102	22	63	0	33	117
1985	273	0	0	42	111	18	71	0	31	135
1986	197	0	0	32	45	0	60	0	60	122
1987	248	0	0	35	104	10	60	0	39	117
1988	296	0	0	40	104	20	92	0	40	112
1989	290	0	0	57	104	19	64	0	46	150
1990	236	0	0	28	81	20	72	0	35	150
Part-time										
1975	45	0	0	16	15	0	4	0	10	67
1976	39	0	0	14	10	0	5	0	10	49
1977	50	0	0	16	21	0	6	0	7	50
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	53	0	0	13	9	0	5	0	26	58
1980	73	0	0	17	9	10	5	0	32	48
1981	72	0	0	10	7	0	5	0	50	47
1982	75	0	0	13	7	0	4	0	51	57
1983	116	0	0	13	10	13	13	0	67	53
1984	147	0	0	27	29	15	30	0	46	65
1985	69	0	0	4	10	2	10	0	43	48
1986	177	0	0	15	16	0	3	0	143	42
1987	87	0	0	17	25	0	5	0	40	43
1988	84	0	0	17	7	6	10	0	44	43
1989	93	0	0	15	25	7	8	0	38	51
1990	158	0	0	32	51	8	28	0	39	59

1/ Master's-granting institutions were not surveyed in 1978.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-8. Science and engineering graduate students in historically black colleges and universities by sex and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences									
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences	
		Total enrollment									
1975	2,315	1,978	231	14	210	45	49	491	250	688	
1976	2,677	2,442	245	21	244	100	53	650	303	826	
1977	2,899	2,635	277	28	207	129	78	625	265	1,026	
1978 1/2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1979	2,212	2,873	244	23	138	135	105	665	274	1,289	
1980	2,189	2,796	248	30	154	139	72	640	291	1,222	
1981	2,391	2,007	284	23	168	150	83	610	268	1,421	
1982	2,269	2,836	288	31	206	232	87	605	227	1,160	
1983	2,456	2,958	319	32	235	271	82	593	384	1,042	
1984	2,875	2,288	347	39	266	320	109	536	436	1,235	
1985	2,587	2,062	320	34	240	304	66	479	404	1,215	
1986	2,454	2,916	299	19	265	279	55	447	419	1,133	
1987	2,202	2,707	300	16	259	229	52	409	374	1,068	
1988	2,474	2,939	328	36	252	277	64	414	443	1,125	
1989	2,373	2,789	336	27	255	290	66	447	440	928	
1990	2,628	2,025	340	48	179	404	131	460	448	1,015	
Men											
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1977	1,782	1,610	203	24	113	100	73	350	99	648	
1978 1/2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1979	1,856	1,626	168	20	66	98	88	378	116	692	
1980	1,955	1,676	175	18	68	101	50	383	142	739	
1981	2,072	1,807	199	18	87	96	70	340	110	887	
1982	1,899	1,625	182	19	111	150	74	316	97	676	
1983	1,981	1,675	197	16	139	185	68	321	177	572	
1984	2,322	1,924	235	20	162	221	102	274	194	716	
1985	2,145	1,801	207	27	140	220	51	222	177	757	
1986	2,052	1,702	214	10	160	196	46	225	167	684	
1987	1,958	1,646	216	11	178	171	44	209	149	668	
1988	2,092	1,723	235	19	168	181	56	213	159	692	
1989	1,950	1,550	231	15	163	183	57	207	146	548	
1990	2,024	1,643	229	26	109	250	104	220	159	546	
Women											
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1977	1,117	1,025	74	4	94	29	5	275	166	378	
1978 1/2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1979	1,356	1,247	76	3	72	37	17	287	158	597	
1980	1,234	1,120	73	12	86	38	22	257	149	483	
1981	1,319	1,200	85	5	81	54	13	270	158	534	
1982	1,370	1,211	106	12	95	82	13	289	130	484	
1983	1,465	1,283	122	16	96	86	14	272	207	470	
1984	1,553	1,364	112	19	104	99	7	265	242	519	
1985	1,442	1,261	113	7	100	84	15	259	227	458	
1986	1,402	1,214	85	9	105	83	9	222	225	449	
1987	1,244	1,061	84	5	81	58	8	200	225	400	
1988	1,382	1,216	93	17	84	96	8	201	284	433	
1989	1,423	1,239	105	12	92	107	9	240	294	380	
1990	1,604	1,382	111	22	70	154	27	240	289	469	

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-8. Science and engineering graduate students in historically black colleges and universities by sex and field: 1975-90

Page 2 of 2

Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	180	0	0	67	28	28	34	0	23	157
1976	148	0	0	67	29	0	35	0	17	87
1977	155	0	0	39	69	0	25	0	22	109
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	212	0	0	79	26	0	21	0	86	127
1980	264	0	0	85	46	26	22	0	85	129
1981	242	0	0	53	66	7	30	0	86	142
1982	267	0	0	44	64	8	30	0	121	166
1983	311	0	0	47	94	23	47	0	100	177
1984	405	0	0	65	131	37	93	0	79	182
1985	342	0	0	46	121	20	81	0	74	183
1986	374	0	0	47	61	0	63	0	203	164
1987	335	0	0	52	129	10	65	0	79	160
1988	380	0	0	57	111	26	102	0	84	155
1989	383	0	0	72	129	26	72	0	84	201
1990	394	0	0	60	132	28	100	0	74	209
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	139	0	0	28	66	0	23	0	22	33
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	193	0	0	68	26	0	19	0	80	37
1980	245	0	0	75	45	23	21	0	81	34
1981	226	0	0	46	62	6	30	0	82	39
1982	242	0	0	32	61	8	29	0	112	32
1983	274	0	0	33	87	18	45	0	91	32
1984	364	0	0	54	121	32	86	0	71	34
1985	306	0	0	37	110	13	74	0	72	38
1986	315	0	0	27	50	0	60	0	178	35
1987	282	0	0	30	112	8	59	0	73	30
1988	319	0	0	30	99	21	93	0	76	60
1989	324	0	0	55	113	17	66	0	73	76
1990	307	0	0	48	93	13	89	0	64	74
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	16	0	0	11	3	0	2	0	0	76
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	19	0	0	11	0	0	2	0	6	90
1980	19	0	0	10	1	3	1	0	4	95
1981	16	0	0	7	4	1	0	0	4	103
1982	25	0	0	12	3	0	2	0	9	134
1983	37	0	0	14	7	0	5	0	9	145
1984	41	0	0	11	10	7	7	0	25	148
1985	36	0	0	9	11	7	7	0	25	145
1986	59	0	0	20	11	0	3	0	8	129
1987	53	0	0	22	17	0	6	0	6	130
1988	61	0	0	27	12	5	9	0	8	105
1989	59	0	0	17	16	9	6	0	11	125
1990	87	0	0	12	39	15	11	0	10	135

1/ Master's-granting institutions were not surveyed in 1978.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-9. Full-time science and engineering graduate students in historically black colleges and universities by sex and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
		Total enrollment								
1975	1,628	1,403	182	6	80	7	34	372	167	555
1976	1,785	1,638	194	11	95	45	39	459	193	602
1977	1,847	1,683	225	20	70	55	44	471	162	636
1978 1/2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	2,047	1,819	197	16	56	81	60	519	175	715
1980	2,205	1,933	212	20	101	96	41	491	178	794
1981	2,411	2,146	255	18	120	87	42	479	153	992
1982	2,230	1,929	256	29	111	153	46	487	120	727
1983	2,231	1,912	271	27	137	185	39	511	132	610
1984	2,357	1,982	258	25	139	202	79	422	173	684
1985	2,335	1,927	262	25	141	212	27	369	159	732
1986	2,151	1,832	239	7	143	206	26	348	183	680
1987	2,091	1,726	244	9	168	163	36	325	163	618
1988	2,285	1,877	272	18	169	209	41	399	202	667
1989	2,082	1,642	217	17	160	169	45	339	197	498
1990	2,139	1,753	217	24	95	216	106	354	175	566
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	1,168	1,047	167	18	41	37	42	271	61	410
1978 1/2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	1,283	1,110	140	16	35	60	55	292	79	433
1980	1,412	1,206	152	11	47	73	36	299	92	496
1981	1,550	1,355	183	15	65	50	34	267	62	679
1982	1,352	1,152	161	18	66	102	38	260	45	462
1983	1,338	1,136	170	15	88	128	35	283	60	357
1984	1,464	1,203	172	15	90	140	75	216	70	425
1985	1,485	1,207	178	22	102	153	21	170	64	497
1986	1,326	1,142	177	4	100	149	23	185	60	444
1987	1,336	1,101	180	7	130	126	32	162	65	399
1988	1,449	1,157	199	7	124	133	38	159	80	417
1989	1,261	942	164	10	111	99	42	162	65	289
1990	1,234	987	158	12	60	133	85	179	56	304
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	679	636	58	2	29	18	2	200	101	226
1978 1/2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	764	709	57	0	21	21	5	227	96	282
1980	793	727	60	9	24	23	5	192	86	298
1981	861	791	72	3	55	37	8	212	91	313
1982	878	777	95	11	45	51	8	227	75	265
1983	893	776	101	12	49	57	4	228	72	253
1984	893	779	86	10	49	62	4	206	103	259
1985	850	720	84	3	39	59	6	199	95	235
1986	825	690	62	3	43	57	3	163	123	236
1987	755	625	64	2	38	37	4	163	98	219
1988	836	720	73	11	45	76	3	140	122	250
1989	821	700	53	7	49	70	3	177	132	209
1990	905	766	59	12	35	83	21	175	119	262

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-9. Full-time science and engineering graduate students in historically black colleges and universities by sex and field: 1975-90

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Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	135	0	0	51	13	28	30	0	13	90
1976	109	0	0	53	19	0	30	0	7	38
1977	105	0	0	23	48	0	19	0	15	59
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	159	0	0	66	17	0	16	0	60	69
1980	191	0	0	68	37	16	17	0	53	81
1981	170	0	0	43	59	7	25	0	36	95
1982	192	0	0	31	57	8	26	0	70	109
1983	195	0	0	34	84	10	34	0	33	124
1984	258	0	0	38	102	22	63	0	33	117
1985	273	0	0	42	111	18	71	0	31	135
1986	197	0	0	32	45	0	60	0	60	122
1987	248	0	0	35	104	10	60	0	39	117
1988	296	0	0	40	104	20	92	0	40	112
1989	290	0	0	57	104	19	64	0	46	150
1990	236	0	0	28	81	20	72	0	35	150
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	95	0	0	17	46	0	17	0	15	26
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	142	0	0	55	17	0	14	0	56	31
1980	177	0	0	62	36	14	16	0	49	29
1981	158	0	0	37	55	6	25	0	35	57
1982	175	0	0	24	54	8	25	0	64	25
1983	172	0	0	26	77	9	32	0	28	30
1984	231	0	0	32	94	18	58	0	29	30
1985	243	0	0	34	100	12	66	0	31	35
1986	152	0	0	17	35	0	57	0	43	32
1987	207	0	0	19	91	8	54	0	35	28
1988	248	0	0	20	92	15	84	0	37	44
1989	248	0	0	46	91	12	59	0	40	71
1990	186	0	0	22	62	7	64	0	31	61
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	10	0	0	6	2	0	2	0	0	33
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	17	0	0	11	0	0	2	0	4	38
1980	14	0	0	6	1	2	1	0	4	52
1981	12	0	0	6	4	1	0	0	1	58
1982	17	0	0	7	3	0	1	0	6	84
1983	23	0	0	8	7	1	2	0	5	94
1984	27	0	0	6	8	4	5	0	4	87
1985	30	0	0	8	11	6	5	0	0	100
1986	45	0	0	15	10	0	3	0	17	90
1987	41	0	0	16	13	2	6	0	4	89
1988	48	0	0	20	12	5	8	0	3	68
1989	42	0	0	11	13	7	5	0	6	79
1990	50	0	0	6	19	13	8	0	4	89

1/ Master's-granting institutions were not surveyed in 1978.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-10. Full-time science and engineering graduate students in historically black colleges and universities by citizenship and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	1,628	1,403	182	6	80	7	34	372	167	555
1976	1,785	1,638	194	11	95	45	39	459	193	602
1977	1,847	1,683	225	20	70	55	44	471	162	636
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	2,047	1,819	197	16	56	81	60	519	175	715
1980	2,205	1,933	212	20	101	96	41	491	178	794
1981	2,411	2,146	255	18	120	87	42	479	153	992
1982	2,230	1,929	256	29	111	153	46	487	120	727
1983	2,231	1,912	271	27	137	185	39	511	132	610
1984	2,357	1,982	258	25	139	202	79	422	173	684
1985	2,335	1,927	262	25	141	212	27	369	159	732
1986	2,151	1,832	239	7	143	206	26	348	183	680
1987	2,091	1,726	244	9	168	163	36	325	163	618
1988	2,285	1,877	272	18	169	209	41	299	202	667
1989	2,082	1,642	217	17	160	169	45	339	197	498
1990	2,139	1,753	217	24	95	216	106	354	175	566
U.S. citizens										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	1,839	1,618	164	2	52	56	45	452	174	673
1980	1,503	1,322	145	8	55	48	17	322	162	565
1981	1,523	1,362	157	6	53	46	17	340	140	603
1982	1,318	1,163	153	14	49	85	10	345	112	395
1983	1,382	1,222	179	19	53	111	6	360	127	367
1984	1,495	1,294	170	7	71	122	13	369	160	467
1985	1,403	1,196	145	11	63	97	15	295	148	455
1986	1,255	1,072	135	4	84	98	3	262	138	338
1987	1,195	1,005	145	7	99	56	7	232	176	312
1988	1,436	1,206	178	14	96	115	4	210	153	328
1989	1,419	1,112	120	12	92	124	6	208	190	401
1990	1,513	1,207	131	18	75	131	34	242	178	338
Non-U.S. citizens										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	208	201	33	14	4	25	15	67	1	42
1980	702	611	67	12	46	48	24	169	16	229
1981	888	784	98	12	67	41	25	139	13	389
1982	912	766	103	15	62	68	36	142	8	332
1983	849	690	92	8	84	74	33	151	5	243
1984	862	688	88	18	68	80	66	127	13	228
1985	932	731	117	14	78	115	12	107	11	277
1986	896	760	104	3	59	108	21	116	7	342
1987	896	721	99	2	69	107	29	115	10	290
1988	849	671	94	4	73	94	37	91	12	266
1989	663	530	97	5	68	45	39	97	19	160
1990	626	546	86	6	20	85	72	106	15	156

See explanatory information, if any, and SOURCE(S) at end of table.

Table 8-10. Full-time science and engineering graduate students in historically black colleges and universities by citizenship and field: 1975-90

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Page 2 of 2										
Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	135	0	0	51	13	28	30	0	13	90
1976	109	0	0	23	19	0	30	0	7	38
1977	105	0	0	23	48	0	19	0	15	59
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	159	0	0	66	17	0	16	0	60	69
1980	191	0	0	68	37	16	17	0	53	81
1981	170	0	0	43	59	7	25	0	36	95
1982	192	0	0	31	57	8	26	0	70	109
1983	195	0	0	34	84	10	34	0	33	124
1984	258	0	0	38	102	22	63	0	33	117
1985	273	0	0	42	111	18	71	0	31	135
1986	197	0	0	32	45	0	60	0	60	122
1987	248	0	0	35	104	10	60	0	39	117
1988	296	0	0	40	104	20	92	0	40	112
1989	290	0	0	57	104	19	64	0	46	150
1990	236	0	0	28	81	20	72	0	35	150
U.S. citizens										
1975 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	159	0	0	66	17	0	16	0	60	69
1980	106	0	0	58	18	9	3	0	18	75
1981	84	0	0	32	38	1	5	0	8	77
1982	64	0	0	11	33	5	2	0	13	91
1983	63	0	0	12	27	7	4	0	13	97
1984	95	0	0	13	42	15	16	0	5	106
1985	91	0	0	12	49	10	15	0	9	116
1986	74	0	0	8	16	0	11	0	39	109
1987	84	0	0	9	39	7	17	0	12	106
1988	132	0	0	16	61	20	27	0	8	98
1989	171	0	0	46	59	10	30	0	26	136
1990	168	0	0	23	60	20	45	0	20	138
Non-U.S. citizens										
1975 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	0	0	0	0	0	0	0	0	0	7
1980	85	0	0	10	19	7	14	0	35	6
1981	86	0	0	11	21	6	20	0	28	18
1982	128	0	0	20	24	3	24	0	57	18
1983	132	0	0	22	57	3	30	0	20	27
1984	163	0	0	25	60	7	47	0	24	11
1985	182	0	0	30	62	8	56	0	26	19
1986	123	0	0	24	29	0	49	0	21	13
1987	164	0	0	26	65	3	63	0	27	11
1988	164	0	0	24	43	0	65	0	32	14
1989	119	0	0	11	45	9	34	0	20	14
1990	68	0	0	5	21	0	27	0	15	12

1/ Master's-granting institutions were not surveyed in 1978.

2/ Data on citizenship distribution were not requested before 1979.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-11. Part-time science and engineering graduate students in historically black colleges and universities by sex and field: 1975-90

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Page 1 of 8

Year	Total, all surveyed fields	Sciences									
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences	
Total enrollment											
1975	687	575	49	8	130	38	15	119	83	133	
1976	892	804	51	10	149	55	14	191	110	224	
1977	1,052	952	52	8	137	74	34	154	103	390	
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1979	1,165	1,054	47	7	82	54	45	146	99	574	
1980	984	863	36	10	53	43	31	149	113	428	
1981	980	861	29	5	48	63	41	131	115	429	
1982	1,039	907	32	2	95	79	41	118	107	433	
1983	1,215	1,046	48	5	98	86	43	82	252	432	
1984	1,518	1,306	89	14	127	118	30	114	263	551	
1985	1,252	1,135	58	9	99	92	39	110	245	483	
1986	1,303	1,084	60	12	122	73	29	99	236	453	
1987	1,111	981	56	7	91	66	16	84	211	450	
1988	1,189	1,062	56	18	83	68	23	115	241	458	
1989	1,291	1,147	119	10	95	121	21	108	243	430	
1990	1,489	1,272	123	24	84	188	25	106	273	449	
Men											
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1977	614	563	36	6	72	63	31	79	38	238	
1978	1,165	1,054	47	7	NA	NA	NA	NA	NA	NA	
1979	573	516	28	4	31	38	33	86	37	259	
1980	543	470	23	7	21	28	14	84	50	243	
1981	522	452	16	3	22	46	36	73	48	208	
1982	547	473	21	1	45	48	36	56	52	214	
1983	643	539	27	1	51	57	33	38	117	215	
1984	858	721	63	5	72	81	27	58	124	291	
1985	660	594	29	5	38	67	30	52	113	260	
1986	726	560	37	6	60	47	23	40	107	240	
1987	622	545	36	4	48	45	12	47	84	269	
1988	643	566	36	12	44	48	18	54	79	275	
1989	689	608	67	5	52	84	15	45	81	259	
1990	790	656	71	14	49	117	19	41	103	242	
Women											
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1977	438	389	16	2	65	11	3	75	65	152	
1978	1,165	1,054	47	7	NA	NA	NA	NA	NA	NA	
1979	592	538	19	3	51	16	12	60	62	315	
1980	441	393	13	3	32	15	17	65	63	185	
1981	458	409	13	2	26	17	5	58	67	221	
1982	492	434	11	1	50	31	5	62	55	219	
1983	572	507	21	4	47	29	10	44	135	217	
1984	660	585	26	9	55	37	3	56	139	260	
1985	592	541	29	4	61	25	9	58	132	223	
1986	577	524	23	6	62	26	6	37	129	213	
1987	489	436	20	3	43	21	4	37	127	181	
1988	546	496	20	6	39	20	5	61	162	183	
1989	602	539	52	5	43	37	6	63	162	171	
1990	699	616	52	10	35	71	6	65	170	207	

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-11. Part-time science and engineering graduate students in historically black colleges and universities by sex and field: 1975-90

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Page 2 of 2										
Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	45	0	0	16	15	0	4	0	10	67
1976	39	0	0	14	10	0	5	0	10	49
1977	50	0	0	16	21	0	6	0	7	50
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	53	0	0	13	9	0	5	0	26	58
1980	73	0	0	17	9	10	5	0	32	48
1981	72	0	0	10	7	0	5	0	50	47
1982	75	0	0	13	7	0	4	0	51	57
1983	116	0	0	13	10	13	13	0	67	53
1984	147	0	0	27	29	15	30	0	46	65
1985	69	0	0	4	10	2	10	0	43	48
1986	177	0	0	15	16	0	3	0	143	47
1987	87	0	0	17	25	0	5	0	40	43
1988	84	0	0	17	7	6	10	0	44	43
1989	93	0	0	15	25	7	8	0	38	51
1990	158	0	0	32	51	8	28	0	39	59
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	44	0	0	11	2	0	6	0	7	7
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	51	0	0	13	9	0	5	0	24	58
1980	68	0	0	13	9	9	5	0	32	48
1981	68	0	0	9	7	0	5	0	47	47
1982	67	0	0	8	7	0	4	0	48	57
1983	102	0	0	7	10	9	13	0	63	53
1984	133	0	0	22	27	14	28	0	42	65
1985	63	0	0	3	10	1	8	0	41	48
1986	163	0	0	10	15	0	3	0	135	47
1987	75	0	0	11	21	0	5	0	38	43
1988	71	0	0	10	7	6	9	0	39	43
1989	76	0	0	9	22	5	7	0	33	51
1990	121	0	0	26	31	6	25	0	33	59
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	6	0	0	5	1	0	0	0	0	43
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	2	0	0	0	0	0	0	0	2	52
1980	5	0	0	4	0	1	0	0	0	43
1981	4	0	0	1	0	0	0	0	3	45
1982	8	0	0	5	0	0	0	0	3	50
1983	14	0	0	6	0	4	0	0	4	51
1984	14	0	0	5	2	1	2	0	4	61
1985	6	0	0	1	0	1	2	0	2	45
1986	14	0	0	5	1	0	0	0	8	39
1987	12	0	0	6	4	0	0	0	2	41
1988	13	0	0	7	0	0	1	0	5	37
1989	17	0	0	6	3	2	0	0	5	46
1990	37	0	0	6	20	2	3	0	6	46

1/ Master's-granting institutions were not surveyed in 1978.

NOTE: NA = Not available.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-12. Science and engineering graduate students in land-grant institutions
by enrollment status and field: 1975-90

Year	Total, all surveyed fields	Sciences								Social sciences
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	
Total enrollment										
1975	109,318	78,787	10,036	4,957	5,232	3,013	8,693	18,576	6,955	21,325
1976	111,365	80,424	10,334	5,451	5,060	3,058	9,137	19,444	6,955	20,985
1977	112,488	81,085	10,448	5,643	4,892	3,082	9,388	19,685	6,809	21,138
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	114,629	81,268	10,413	5,556	4,676	3,265	9,704	19,338	6,721	21,595
1980	118,176	82,610	10,616	5,678	4,672	3,722	9,737	19,441	6,823	21,921
1981	119,388	82,676	10,774	5,857	4,771	3,952	9,774	19,266	6,762	21,120
1982	122,052	82,701	11,153	6,104	4,922	4,346	9,852	18,952	6,753	20,619
1983	126,522	83,790	11,516	6,338	5,191	4,858	9,820	19,055	6,977	20,035
1984	128,564	84,767	11,783	6,329	5,461	5,393	9,569	19,115	7,130	19,987
1985	127,576	85,596	12,102	6,295	5,619	6,059	9,133	19,223	7,378	19,787
1986	131,779	87,194	12,589	6,247	5,956	6,258	9,150	19,454	7,395	20,145
1987	132,021	86,775	12,775	5,885	6,296	6,378	8,921	19,388	7,074	20,058
1988	134,119	87,986	12,959	5,727	6,651	6,469	8,794	19,565	7,540	20,281
1989	137,476	89,955	13,094	5,786	6,783	6,567	8,718	19,961	7,818	21,228
1990	141,953	92,079	13,228	5,629	7,087	6,765	8,777	20,209	7,984	22,400
Full-time										
1975	90,266	66,121	9,266	4,157	4,396	1,945	7,444	16,439	5,977	16,497
1976	91,368	67,332	9,463	4,617	4,206	2,054	7,865	17,187	5,922	16,018
1977	91,268	67,090	9,518	4,762	4,101	1,986	8,057	17,224	5,711	15,731
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	92,367	66,543	9,634	4,678	3,906	2,250	8,035	16,896	5,630	15,514
1980	94,618	67,232	9,855	4,703	3,927	2,493	8,127	16,937	5,461	15,729
1981	96,161	67,831	10,011	4,857	4,138	2,763	8,353	16,907	5,443	15,359
1982	96,745	67,478	10,309	5,029	4,255	3,073	8,188	16,620	5,415	14,789
1983	98,863	68,365	10,647	5,273	4,439	3,459	8,100	16,557	5,332	14,558
1984	100,470	69,268	10,932	5,157	4,612	3,766	7,970	16,760	5,470	14,601
1985	101,033	69,424	11,113	4,960	4,831	4,466	7,526	16,603	5,519	14,406
1986	105,236	71,574	11,626	5,013	5,100	4,762	7,648	17,049	5,693	14,683
1987	105,670	71,697	11,901	4,618	5,531	4,828	7,546	17,122	5,609	14,542
1988	107,098	72,220	11,987	4,446	5,744	4,697	7,464	17,218	5,848	14,816
1989	109,082	73,589	12,117	4,574	5,920	4,752	7,251	17,653	5,972	15,350
1990	111,659	75,080	12,132	4,438	6,030	4,985	7,293	17,761	5,983	16,458
Part-time										
1975	19,052	12,666	770	800	836	1,068	1,249	2,137	978	4,823
1976	19,997	13,092	871	834	854	1,004	1,272	2,257	1,033	4,967
1977	21,220	13,995	930	881	791	1,096	1,331	2,461	1,098	5,407
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	22,262	14,725	779	878	770	1,015	1,669	2,442	1,091	6,081
1980	23,558	15,378	761	975	745	1,229	1,610	2,504	1,362	6,192
1981	23,227	14,445	763	1,000	633	1,189	1,421	2,359	1,319	5,761
1982	23,307	15,223	844	1,075	712	1,273	1,664	2,532	1,338	6,830
1983	23,659	15,425	869	1,065	752	1,399	1,720	2,498	1,645	6,477
1984	24,994	15,499	851	1,172	788	1,593	1,599	2,355	1,660	6,386
1985	26,543	16,172	989	1,335	788	1,593	1,607	2,620	1,859	6,381
1986	26,543	16,620	963	1,234	856	1,496	1,502	2,405	1,702	6,462
1987	26,351	15,078	874	1,267	765	1,550	1,375	2,266	1,465	6,516
1988	27,021	15,766	972	1,281	907	1,772	1,330	2,347	1,692	6,465
1989	28,394	16,366	977	1,212	863	1,815	1,467	2,308	1,846	5,878
1990	30,294	16,999	1,096	1,191	1,057	1,780	1,484	2,448	2,001	5,942

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-12. Science and engineering graduate students in land-grant institutions by enrollment status and field: 1975-90

Page 2 of 2										
Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	22,976	640	2,090	4,519	5,455	2,335	3,327	1,012	3,598	7,555
1976	23,064	617	2,121	4,663	5,287	2,351	3,254	1,065	3,706	7,877
1977	23,209	588	2,174	4,792	5,352	2,364	3,166	1,084	3,689	8,194
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	24,110	566	2,274	4,930	5,230	2,645	3,453	1,226	3,786	9,251
1980	25,538	651	2,522	5,210	5,727	2,829	3,768	1,259	3,572	10,028
1981	26,995	709	2,735	5,235	6,081	2,567	4,124	1,318	4,226	10,117
1982	29,015	729	2,967	5,371	6,689	2,725	4,595	1,313	4,626	10,336
1983	31,111	959	3,159	5,785	7,505	2,309	5,182	1,403	4,809	9,621
1984	30,931	943	3,076	5,830	7,770	2,410	5,365	1,544	3,993	9,766
1985	31,874	1,022	3,015	5,812	8,377	2,773	5,267	1,660	3,948	10,106
1986	34,482	1,093	3,054	5,934	9,134	3,048	5,804	1,785	4,630	10,103
1987	35,081	1,103	3,128	5,785	9,657	2,997	6,040	1,788	4,583	10,165
1988	35,263	1,173	3,244	6,045	9,717	2,836	6,138	1,813	4,597	10,870
1989	36,024	1,253	3,253	6,090	9,972	3,068	5,971	1,960	4,711	11,497
1990	37,600	1,397	3,085	6,438	10,059	3,005	6,299	2,078	5,239	12,274
Full-time										
1975	17,910	502	1,739	3,566	4,046	1,772	2,522	881	2,882	6,235
1976	17,740	506	1,791	3,698	4,974	1,702	2,441	953	2,675	6,296
1977	17,746	478	1,836	3,869	3,825	1,596	2,395	988	2,759	6,432
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	18,848	470	2,008	4,118	3,820	1,863	2,717	1,089	2,763	6,976
1980	20,087	557	2,209	4,353	4,351	2,012	3,910	1,078	3,617	7,999
1981	21,252	608	2,400	4,369	4,724	1,740	3,301	1,198	3,912	7,078
1982	22,447	657	2,647	4,509	4,941	1,763	3,632	1,183	3,115	6,820
1983	23,717	774	2,814	4,822	5,530	1,330	4,133	1,261	3,053	6,781
1984	24,251	726	2,748	4,836	5,876	1,392	4,222	1,380	3,071	6,951
1985	24,473	783	2,633	4,744	6,100	1,464	4,215	1,487	3,047	7,136
1986	26,580	848	2,729	4,959	6,687	1,600	4,651	1,599	3,507	7,082
1987	26,947	886	2,844	4,807	6,876	1,563	4,843	1,612	3,516	7,026
1988	27,444	969	2,632	5,043	7,133	1,562	5,006	1,621	3,478	7,434
1989	27,926	1,047	2,709	4,999	7,394	1,683	4,899	1,782	3,413	7,567
1990	28,587	1,103	2,777	5,255	7,380	1,653	5,070	1,841	3,508	7,992
Part-time										
1975	5,066	138	351	953	1,409	563	805	131	716	1,320
1976	5,324	111	330	965	1,313	649	813	112	1,031	1,581
1977	5,463	110	338	923	1,527	768	771	96	930	1,762
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	5,262	96	266	812	1,410	782	736	137	1,023	2,275
1980	5,451	94	313	857	1,376	817	858	181	955	2,729
1981	5,743	101	335	866	1,357	827	823	120	1,314	3,039
1982	6,568	72	320	862	1,748	962	963	130	1,511	3,516
1983	7,394	185	345	963	1,975	979	1,049	142	1,756	2,840
1984	6,680	217	328	994	1,894	1,018	1,143	164	922	2,815
1985	7,401	239	382	1,068	2,277	1,309	1,052	173	901	2,970
1986	7,902	245	325	975	2,447	1,448	1,153	186	1,123	3,021
1987	8,134	217	284	978	2,781	1,434	1,197	176	1,067	3,139
1988	7,819	204	312	1,002	2,584	1,274	1,132	192	1,119	3,436
1989	8,098	206	290	1,091	2,578	1,385	1,072	178	1,298	3,930
1990	9,013	294	308	1,183	2,679	1,352	1,229	237	1,731	4,282

1/ Master's-granting institutions were not surveyed in 1978.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table 8-13. Science and engineering graduate students in land-grant institutions
by sex and field: 1975-90

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Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	109,318	78,787	10,036	4,957	5,232	3,013	8,693	18,576	6,955	21,325
1976	111,365	80,424	10,334	5,451	5,060	3,058	9,137	19,444	6,955	20,985
1977	112,488	81,085	10,448	5,643	4,892	3,082	9,388	19,685	6,809	21,138
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	114,629	81,268	10,413	5,556	4,676	3,265	9,704	19,338	6,721	21,595
1980	118,176	82,610	10,616	5,678	4,672	3,722	9,737	19,441	6,823	21,921
1981	119,388	82,276	10,774	5,857	4,771	3,952	9,774	19,266	6,762	21,120
1982	122,052	82,701	11,153	6,104	4,922	4,346	9,852	18,952	6,753	20,619
1983	124,522	83,790	11,516	6,338	5,191	4,858	9,820	19,055	6,977	20,035
1984	125,464	84,767	11,783	6,329	5,461	5,393	9,569	19,115	7,130	19,987
1985	127,576	85,596	12,102	6,295	5,619	6,059	9,133	19,223	7,378	19,787
1986	131,779	87,194	12,589	6,247	5,956	6,258	9,150	19,454	7,395	20,145
1987	132,021	86,775	12,775	5,885	6,296	6,378	8,921	19,388	7,074	20,058
1988	134,119	87,986	12,959	5,727	6,651	6,469	8,794	19,565	7,540	20,281
1989	137,476	89,955	13,094	5,786	6,783	6,567	8,718	19,961	7,818	21,228
1990	141,953	92,079	13,228	5,629	7,087	6,765	8,777	20,209	7,984	22,400
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	83,754	58,991	8,990	4,689	3,761	2,551	7,653	13,373	3,579	14,395
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	81,996	57,117	8,873	4,456	3,544	2,663	7,527	12,549	3,436	14,069
1980	82,773	56,630	8,956	4,430	3,556	2,897	7,395	12,397	3,195	13,804
1981	82,863	56,627	9,029	4,498	3,600	2,987	7,502	11,913	3,042	13,154
1982	84,238	55,400	9,128	4,653	3,399	3,267	7,401	11,484	3,035	12,793
1983	86,595	55,822	9,325	4,812	3,823	3,679	7,358	11,421	3,021	12,379
1984	86,549	56,406	9,524	4,829	3,978	4,088	7,113	11,362	3,033	12,479
1985	87,805	56,663	9,726	4,711	4,054	4,656	6,771	11,448	3,098	12,199
1986	90,571	57,446	10,043	4,665	4,281	4,889	6,788	11,398	3,082	12,300
1987	90,674	56,986	10,129	4,377	4,546	4,102	6,546	11,246	2,764	12,276
1988	91,019	57,116	10,149	4,227	4,806	4,144	6,387	11,266	2,879	12,558
1989	91,888	57,545	10,171	4,192	4,800	3,307	6,269	11,327	2,949	12,530
1990	93,979	58,414	10,241	4,036	5,065	3,462	6,207	11,399	2,907	13,097
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	28,734	22,094	1,458	954	1,131	531	1,735	6,312	3,230	6,743
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	32,633	24,151	1,540	1,100	1,132	602	2,177	6,789	3,285	7,526
1980	35,403	25,980	1,660	1,248	1,116	825	2,342	7,044	3,628	8,117
1981	36,525	26,649	1,845	1,359	1,171	963	2,272	7,353	3,720	7,966
1982	37,814	27,301	2,025	1,451	1,283	1,079	2,451	7,468	3,718	7,826
1983	38,227	27,968	2,191	1,526	1,368	1,179	2,462	7,634	3,952	7,656
1984	38,915	28,361	2,259	1,500	1,483	1,305	2,456	7,753	4,097	7,508
1985	39,771	28,933	2,376	1,584	1,565	1,403	2,362	7,775	4,280	7,588
1986	41,208	29,748	2,546	1,582	1,675	1,369	2,362	8,056	4,313	7,845
1987	41,347	29,789	2,646	1,508	1,750	1,276	2,375	8,142	4,310	7,782
1988	43,100	30,870	2,810	1,500	1,845	1,325	2,407	8,299	4,661	8,023
1989	45,588	32,410	2,923	1,594	1,983	1,260	2,449	8,634	4,869	8,698
1990	47,974	33,665	2,987	1,593	2,022	1,503	2,570	8,810	5,077	9,303

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-13. Science and engineering graduate students in land-grant institutions
by sex and field: 1975-90

Page 2 of 2

Year	Engineering									Health fields
	Engineering, total	Aerospace engineering	Chemical engineering	Civil engineering	Electrical engineering	Industrial engineering	Mechanical engineering	Metallurgical & materials engineering	Other engineering	
Total enrollment										
1975	22,976	640	2,090	4,519	5,455	2,335	3,327	1,012	3,598	7,555
1976	23,064	617	2,121	4,663	5,287	2,351	3,254	1,065	3,706	7,877
1977	23,209	588	2,174	4,792	5,352	2,364	3,166	1,084	3,689	8,194
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	24,110	566	2,274	4,930	5,230	2,645	3,453	1,226	3,786	9,251
1980	25,538	651	2,222	5,210	5,727	2,829	3,768	1,259	3,572	10,028
1981	26,995	709	2,357	5,371	6,081	2,567	4,124	1,318	4,226	10,117
1982	29,015	729	2,967	5,371	6,689	2,725	4,595	1,313	4,626	10,336
1983	31,111	959	2,159	5,785	7,505	2,309	5,182	1,403	4,809	9,621
1984	30,931	943	2,076	5,830	7,770	2,410	5,365	1,544	3,993	9,766
1985	31,874	1,022	2,015	5,812	8,377	2,773	5,267	1,660	3,948	10,106
1986	34,482	1,093	2,054	5,934	9,134	3,048	5,804	1,785	4,630	10,103
1987	35,081	1,103	2,128	5,785	9,657	3,997	6,040	1,788	4,583	10,165
1988	35,263	1,173	2,044	6,045	9,717	3,836	6,138	1,813	4,597	10,870
1989	36,024	1,253	2,999	6,090	9,972	3,068	6,299	1,960	4,711	11,497
1990	37,600	1,397	3,085	6,438	10,059	3,005	6,299	2,078	5,239	12,274
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	21,768	572	2,008	4,372	5,134	2,094	3,071	1,001	3,516	2,995
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	21,992	550	2,045	4,320	4,975	2,202	3,202	1,106	3,521	2,887
1980	23,069	622	2,252	4,507	5,392	2,313	3,573	1,133	3,307	2,074
1981	24,252	682	2,443	4,514	5,682	2,026	3,859	1,171	3,875	2,984
1982	25,892	695	2,604	4,618	6,214	2,163	4,273	1,138	4,187	2,946
1983	27,825	918	2,765	4,949	6,910	1,894	4,844	1,208	4,337	2,648
1984	27,529	897	2,702	4,990	7,089	1,964	4,012	1,341	4,334	2,614
1985	28,260	966	2,655	4,919	7,674	2,291	4,898	1,393	4,464	2,882
1986	30,441	1,022	2,683	5,024	8,289	2,516	5,363	1,477	4,067	2,684
1987	30,807	1,036	2,686	4,894	8,775	2,451	5,551	1,450	4,964	2,881
1988	30,919	1,102	2,520	5,066	8,799	2,364	5,608	1,480	4,980	2,984
1989	31,397	1,177	2,566	5,093	8,972	2,506	5,457	1,607	4,019	2,946
1990	32,443	1,308	2,572	5,308	8,927	2,442	5,764	1,700	4,422	3,122
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	1,441	16	166	420	218	270	95	83	173	5,199
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	2,118	16	229	610	255	443	180	120	265	6,364
1980	2,469	29	270	703	335	516	225	126	265	6,954
1981	2,743	27	292	721	399	541	265	147	351	7,133
1982	3,123	34	363	753	475	562	322	175	439	7,390
1983	3,286	41	394	836	595	415	338	195	472	6,973
1984	3,402	46	374	840	681	446	353	203	459	7,152
1985	3,614	56	360	893	703	482	369	267	484	7,224
1986	4,041	71	371	910	845	532	441	308	563	7,619
1987	4,274	67	442	891	882	546	489	338	619	7,284
1988	4,344	71	424	979	918	472	530	333	617	7,886
1989	4,627	76	433	997	1,000	562	514	353	692	8,551
1990	5,157	89	513	1,130	1,132	563	535	378	817	9,152

1/ Master's-granting institutions were not surveyed in 1978.

NOTE: NA = Not available.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-14. Full-time science and engineering graduate students in land-grant institutions by sex and field: 1975-90

Page 1 of 2

Page 1 of 1										
Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmospheric, and ocean sciences	Mathematical sciences	Computer sciences	Agricultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	90,266	66,121	9,266	4,157	4,396	1,945	7,444	16,439	5,977	16,497
1976	91,368	67,332	9,463	4,617	4,206	2,054	7,865	17,187	5,922	16,018
1977	91,268	67,090	9,518	4,762	4,101	1,986	8,057	17,224	5,711	15,731
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	92,367	66,543	9,634	4,678	3,906	2,250	8,035	16,896	5,630	15,514
1980	94,618	67,232	9,855	4,703	3,927	2,493	8,127	16,937	5,461	15,729
1981	96,161	67,831	10,011	4,857	4,138	2,763	8,353	16,907	5,443	15,359
1982	96,745	67,478	10,309	5,029	4,255	3,073	8,188	16,420	5,415	14,789
1983	98,863	68,365	10,647	5,273	4,439	3,459	8,100	16,557	5,332	14,558
1984	100,470	69,268	10,932	5,157	4,612	3,766	7,970	16,760	5,470	14,601
1985	101,033	69,424	11,113	4,960	4,831	4,466	7,526	16,603	5,519	14,406
1986	105,236	71,574	11,626	5,013	5,100	4,762	7,648	17,049	5,693	14,683
1987	105,670	71,697	11,901	4,618	5,531	4,828	7,546	17,122	5,609	14,542
1988	107,098	72,220	11,987	4,466	5,744	4,697	7,464	17,218	5,848	14,816
1989	109,082	73,589	12,117	4,574	5,920	4,752	7,251	17,653	5,972	15,350
1990	111,659	75,080	12,132	4,438	6,030	4,985	7,293	17,761	5,983	16,458
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	68,419	49,307	8,216	3,964	3,210	1,665	6,536	11,840	3,065	10,811
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	66,949	47,435	8,248	3,757	3,056	1,822	6,214	11,070	2,927	10,341
1980	67,508	46,891	8,364	3,667	3,049	1,987	6,127	10,936	2,910	10,151
1981	68,083	46,618	8,343	3,745	3,168	2,122	6,369	10,638	2,902	9,731
1982	68,274	45,967	8,481	3,865	3,188	2,318	6,122	10,130	2,667	9,396
1983	69,690	46,341	8,643	4,022	3,315	2,667	6,068	10,073	2,349	9,204
1984	70,642	46,903	8,877	3,984	3,429	2,897	5,887	10,119	2,392	9,318
1985	71,002	46,932	8,965	3,744	3,539	3,522	5,586	10,073	2,399	9,104
1986	73,750	48,051	9,300	3,752	3,733	3,809	5,682	10,122	2,431	9,222
1987	73,874	47,865	9,467	3,455	4,048	3,925	5,552	10,037	2,215	9,166
1988	74,116	47,657	9,412	3,293	4,202	3,799	5,447	10,061	2,214	9,229
1989	74,679	47,992	9,443	3,357	4,252	3,922	5,227	10,163	2,278	9,350
1990	75,718	48,653	9,413	3,195	4,371	4,100	5,186	10,154	2,257	9,977
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	22,849	17,783	1,302	798	891	321	1,521	5,384	2,646	4,920
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	25,418	19,108	1,386	921	850	428	1,821	5,826	2,703	5,173
1980	27,110	20,341	1,491	1,036	878	506	2,000	6,001	2,851	5,578
1981	28,078	21,213	1,668	1,112	970	641	1,984	6,269	2,941	5,628
1982	28,471	21,511	1,828	1,164	1,067	755	2,066	6,290	2,948	5,393
1983	29,173	22,024	2,004	1,251	1,124	792	2,032	6,484	2,983	5,354
1984	29,828	22,365	2,055	1,173	1,183	869	2,083	6,641	3,078	5,283
1985	30,031	22,492	2,148	1,216	1,292	944	1,940	6,530	3,120	5,302
1986	31,486	23,523	2,326	1,261	1,367	953	1,966	6,927	3,262	5,461
1987	31,796	23,832	2,434	1,163	1,483	903	1,994	7,085	3,394	5,376
1988	32,982	24,263	2,575	1,153	1,542	898	2,017	7,157	3,634	5,587
1989	34,403	25,597	2,674	1,217	1,668	830	2,024	7,490	3,694	6,000
1990	35,941	26,427	2,719	1,243	1,659	885	2,107	7,607	3,726	6,481

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-14. Full-time science and engineering graduate students in land-grant institutions by sex and field: 1975-90

Page 2 of 2

Year	Engineering									Health fields
	Engineering, total	Aerospace engineering	Chemical engineering	Civil engineering	Electrical engineering	Industrial engineering	Mechanical engineering	Metallurgical & materials engineering	Other engineering	
Total enrollment										
1975	17,910	502	1,739	3,566	4,046	1,772	2,522	881	2,882	6,235
1976	17,740	506	1,791	3,698	3,974	1,702	2,441	953	2,675	6,296
1977	17,746	478	1,836	3,869	3,825	1,596	2,395	988	2,759	6,432
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	18,848	470	2,008	4,118	3,820	1,863	2,717	1,089	2,763	6,976
1980	20,087	557	2,209	4,353	4,351	2,012	2,910	1,078	2,617	7,299
1981	21,252	608	2,400	4,369	4,724	1,740	3,301	1,198	2,912	7,078
1982	22,447	657	2,647	4,509	4,941	1,763	3,632	1,183	3,115	6,820
1983	23,717	774	2,814	4,822	5,530	1,330	4,133	1,261	3,053	6,781
1984	24,251	726	2,748	4,836	5,876	1,392	4,222	1,380	3,071	6,951
1985	24,473	783	2,633	4,744	6,100	1,464	4,215	1,487	3,047	7,136
1986	26,580	848	2,729	4,959	6,687	1,600	4,651	1,599	3,507	7,082
1987	29,947	886	3,844	4,807	6,876	1,563	4,843	1,612	3,516	7,026
1988	31,444	969	3,632	5,043	7,133	1,562	5,006	1,621	3,478	7,434
1989	31,926	1,047	3,709	5,999	7,394	1,683	5,899	1,782	3,413	7,567
1990	28,587	1,103	2,777	5,255	7,380	1,653	5,070	1,841	3,508	7,992
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	16,540	464	1,689	3,486	3,662	1,393	2,330	908	2,608	2,572
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	17,097	455	1,815	3,562	3,617	1,509	2,587	984	2,568	2,417
1980	18,077	533	1,986	3,718	4,086	1,609	2,747	965	2,433	2,540
1981	19,047	584	2,164	3,714	4,601	1,365	3,105	1,065	2,649	2,418
1982	19,990	627	2,336	3,845	4,591	1,374	3,387	1,035	2,795	2,317
1983	21,180	742	2,456	4,106	5,089	1,080	3,883	1,096	2,728	2,169
1984	21,577	690	2,417	4,124	5,334	1,109	3,962	1,208	2,733	2,162
1985	21,703	737	2,325	3,999	5,589	1,165	3,943	1,261	2,684	2,367
1986	23,475	791	2,406	4,179	6,069	1,273	4,335	1,326	3,096	2,224
1987	23,660	833	2,449	4,052	6,255	1,237	4,459	1,317	3,058	2,349
1988	24,090	913	2,271	4,208	6,432	1,331	4,580	1,328	3,027	2,369
1989	24,344	984	2,321	4,167	6,642	1,361	4,474	1,468	2,927	2,343
1990	24,614	1,030	2,312	4,276	6,555	1,326	4,648	1,509	2,958	2,451
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	1,206	14	147	383	163	203	65	80	151	3,860
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	1,751	15	193	556	203	354	130	105	195	4,559
1980	2,010	24	223	635	265	403	163	113	184	4,759
1981	2,205	24	236	655	323	375	196	133	263	4,660
1982	2,457	30	236	664	350	389	245	148	320	4,503
1983	2,537	30	311	716	441	250	250	165	325	4,612
1984	2,537	32	331	712	542	283	260	172	338	4,789
1985	2,674	36	331	745	511	299	272	226	363	4,769
1986	2,770	46	323	780	618	327	316	273	411	4,858
1987	3,105	57	323	755	621	326	384	295	458	4,677
1988	3,287	53	361	835	701	231	426	293	451	5,065
1989	3,354	56	388	832	752	322	425	314	486	5,224
1990	3,582	63	465	979	825	327	422	332	550	5,541

1/ Master's-granting institutions were not surveyed in 1978.

NOTE: NA = Not available.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-15. Full-time science and engineering graduate students in land-grant institutions by citizenship and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmospheric, and ocean sciences	Mathematical sciences	Computer sciences	Agricultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	90,266	66,121	9,266	4,157	4,396	1,945	7,444	16,439	5,977	16,497
1976	91,368	67,332	9,463	4,617	4,206	2,054	7,865	17,187	5,922	16,018
1977	91,268	67,090	9,518	4,762	4,101	1,986	8,057	17,224	5,711	15,731
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	92,367	66,543	9,634	4,678	3,906	2,250	8,035	16,896	5,630	15,514
1980	94,618	67,232	9,855	4,703	3,927	2,493	8,127	16,937	5,461	15,729
1981	96,161	67,831	10,011	4,857	4,138	2,763	8,353	16,907	5,443	15,359
1982	96,745	67,478	10,309	5,029	4,255	3,073	8,188	16,420	5,415	14,789
1983	98,863	68,365	10,647	5,273	4,439	3,459	8,100	16,557	5,332	14,558
1984	100,470	69,268	10,932	5,157	4,612	3,766	7,970	16,760	5,470	14,601
1985	101,033	69,424	11,113	4,960	4,831	4,466	7,526	16,603	5,519	14,406
1986	105,236	71,574	11,626	5,013	5,100	4,762	7,648	17,049	5,693	14,683
1987	105,670	71,697	11,901	4,618	5,331	4,828	7,546	17,122	5,609	14,542
1988	107,098	72,220	11,987	4,446	5,744	4,697	7,464	17,218	5,848	14,816
1989	109,082	73,589	12,117	4,574	5,920	4,752	7,251	17,253	5,972	15,350
1990	111,659	75,080	12,132	4,438	6,030	4,985	7,293	17,761	5,983	16,458
U.S. citizens										
1975 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	79,338	58,356	8,447	4,284	3,057	1,801	6,738	15,198	5,506	13,325
1980	73,406	54,556	7,748	4,063	2,569	1,668	6,273	14,470	5,248	12,517
1981	73,029	53,918	7,634	4,130	2,667	1,845	6,353	14,194	5,197	11,898
1982	72,794	53,290	7,890	4,168	2,660	2,113	6,241	13,733	5,157	11,328
1983	73,213	53,127	8,010	4,403	2,684	2,338	6,055	13,694	5,071	10,872
1984	73,990	53,370	8,072	4,354	2,737	2,410	5,934	13,805	5,066	10,852
1985	72,512	52,081	7,941	4,137	2,756	2,731	5,563	13,280	5,209	10,464
1986	73,719	52,704	8,014	4,093	2,853	2,905	5,489	13,420	5,417	10,513
1987	72,439	51,344	8,035	3,660	3,003	2,953	5,230	13,064	5,247	10,152
1988	72,373	51,112	8,031	3,431	3,147	2,682	5,156	12,831	5,441	10,393
1989	72,840	51,563	7,907	3,414	3,201	2,732	5,069	12,954	5,269	10,717
1990	74,387	52,422	7,857	3,261	3,470	2,820	5,018	12,687	5,537	11,772
Non-U.S. citizens										
1975 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 2/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	13,029	8,187	1,187	394	849	449	1,297	1,698	124	2,189
1980	21,212	12,676	2,107	640	1,358	825	1,854	2,467	213	3,212
1981	23,132	13,913	2,377	727	1,471	918	2,000	2,713	246	3,461
1982	23,951	14,188	2,419	861	1,595	960	1,947	2,687	258	3,461
1983	25,650	15,238	2,637	870	1,755	1,121	2,045	2,863	261	3,686
1984	26,480	15,898	2,860	803	1,875	1,356	2,036	2,955	264	3,749
1985	28,521	17,343	3,172	823	2,075	1,735	2,163	3,233	310	3,942
1986	31,517	18,870	3,612	920	2,247	1,857	2,316	3,629	376	4,170
1987	33,231	20,353	3,866	958	2,228	1,875	2,308	4,058	362	4,390
1988	34,725	21,108	3,956	1,015	2,597	2,015	2,387	4,387	407	4,423
1989	36,242	22,026	4,210	1,160	2,719	2,020	2,182	4,699	403	4,633
1990	37,272	22,658	4,275	1,177	2,560	2,165	2,275	5,074	446	4,686

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-15. Full-time science and engineering graduate students in land-grant institutions by citizenship and field: 1975-90

Page 2 of 2

Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	17,910	502	1,739	3,566	4,046	1,772	2,522	881	2,882	6,235
1976	17,740	506	1,791	3,698	3,974	1,702	2,441	953	2,675	6,296
1977	17,746	478	1,836	3,869	3,825	1,596	2,395	988	2,759	6,432
1978 1/	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	18,848	470	2,008	4,118	3,820	1,863	2,717	1,089	2,763	6,976
1980	20,087	557	2,209	4,353	4,351	2,012	2,910	1,078	2,617	7,299
1981	21,252	608	2,400	4,369	4,724	1,740	3,301	1,198	2,912	7,078
1982	22,447	657	2,647	4,509	4,941	1,763	3,632	1,183	3,115	6,820
1983	23,717	774	2,814	4,822	5,530	1,330	4,133	1,261	3,053	6,781
1984	24,251	726	2,748	4,836	5,876	1,392	4,222	1,380	3,071	6,951
1985	24,473	783	2,633	4,744	6,100	1,464	4,215	1,487	3,047	7,136
1986	26,580	848	2,729	4,959	6,687	1,600	4,651	1,599	3,507	7,082
1987	26,947	886	2,844	4,807	6,876	1,563	4,843	1,612	3,516	7,026
1988	27,444	969	2,632	5,043	7,133	1,562	5,006	1,621	4,478	7,434
1989	27,926	1,047	2,709	4,999	7,594	1,683	4,899	1,782	4,413	7,567
1990	28,587	1,103	2,777	5,255	7,380	1,653	5,070	1,841	3,508	7,992
U.S. citizens										
1975 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	14,493	350	1,534	3,236	2,222	1,425	1,902	737	2,087	6,489
1980	12,170	308	1,320	2,696	2,647	1,361	1,677	570	1,591	6,680
1981	12,724	349	1,428	2,632	2,862	1,077	1,905	678	1,793	6,387
1982	13,567	388	1,581	2,756	2,983	1,097	2,051	653	1,862	6,137
1983	14,054	453	1,842	2,847	3,587	1,077	2,259	760	1,873	6,032
1984	14,435	445	1,795	2,782	3,587	819	2,315	821	1,873	6,185
1985	14,153	464	1,655	2,661	3,530	784	2,332	854	1,873	6,278
1986	14,886	531	1,753	2,694	3,571	838	2,520	899	2,080	6,129
1987	15,005	523	1,765	2,623	3,845	799	2,571	885	1,994	6,090
1988	14,877	564	1,517	2,803	3,822	805	2,569	861	1,936	6,384
1989	14,838	606	1,398	2,697	3,667	841	2,581	903	1,845	6,439
1990	15,148	653	1,389	2,899	3,907	806	2,676	968	1,850	6,817
Non-U.S. citizens										
1975 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	4,355	120	474	882	598	438	815	352	676	487
1980	7,917	249	889	1,657	1,704	651	1,233	508	1,026	619
1981	8,528	259	972	1,737	1,862	663	1,396	520	1,119	691
1982	9,080	269	1,066	1,757	1,958	666	1,581	530	1,253	683
1983	9,663	321	972	1,975	2,277	563	1,874	501	1,180	749
1984	9,816	281	955	2,054	2,289	573	1,907	559	1,198	766
1985	10,320	319	978	2,083	2,116	680	1,883	633	1,174	858
1986	11,694	317	976	2,265	2,570	762	2,131	700	1,427	953
1987	11,942	363	1,079	2,184	3,111	764	2,272	727	1,522	936
1988	12,567	405	1,115	2,240	3,311	757	2,437	760	1,542	1,050
1989	13,088	441	1,311	2,302	3,427	842	2,318	879	1,568	1,128
1990	13,439	450	1,388	2,356	3,473	847	2,394	873	1,658	1,175

1/ Master's-granting institutions were not surveyed in 1978.

2/ Data on citizenship distribution were not requested before 1979.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-16. Part-time science and engineering graduate students in land-grant institutions by sex and field: 1975-90

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Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmospheric, and ocean sciences	Mathematical sciences	Computer sciences	Agricultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	19,052	12,666	770	800	836	1,068	1,249	2,137	978	4,828
1976	19,997	13,092	871	834	854	1,004	1,272	2,257	1,033	4,967
1977	21,220	13,995	930	881	791	1,096	1,331	2,461	1,098	5,407
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	22,262	14,725	779	878	770	1,015	1,669	2,442	1,091	6,081
1980	23,558	15,378	761	975	745	1,229	1,610	2,504	1,362	6,192
1981	23,227	14,445	763	1,000	633	1,189	1,421	2,359	1,319	5,761
1982	25,307	15,223	844	1,075	667	1,273	1,664	2,532	1,338	5,830
1983	25,659	15,425	869	1,065	752	1,399	1,720	2,498	1,645	5,477
1984	24,994	15,499	851	1,172	849	1,627	1,599	2,355	1,660	5,386
1985	26,543	16,172	989	1,135	788	1,593	1,607	2,620	1,859	5,381
1986	26,543	15,620	963	1,234	856	1,496	1,502	2,405	1,702	5,462
1987	26,351	15,078	874	1,267	765	1,550	1,375	2,266	1,465	5,516
1988	27,021	15,766	972	1,281	907	1,772	1,330	2,347	1,692	5,465
1989	28,394	16,366	977	1,212	863	1,815	1,467	2,308	1,846	5,878
1990	30,294	16,999	1,096	1,191	1,057	1,780	1,484	2,448	2,001	5,942
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	15,335	9,684	774	725	551	886	1,117	1,533	514	3,584
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	15,047	9,682	625	699	488	841	1,313	1,479	509	2,728
1980	15,265	9,739	592	763	507	910	1,268	1,461	585	2,633
1981	14,780	9,009	586	753	432	867	1,133	1,275	540	2,423
1982	15,964	9,433	647	788	451	949	1,279	1,354	568	2,397
1983	16,605	9,481	682	790	508	1,012	1,290	1,348	676	2,175
1984	15,907	9,503	647	845	549	1,191	1,226	1,243	641	2,161
1985	16,803	9,731	761	967	515	1,134	1,185	1,276	651	2,095
1986	16,821	9,395	743	913	548	1,080	1,106	1,209	659	2,078
1987	16,800	9,121	662	922	498	1,177	1,094	1,205	665	2,110
1988	16,903	9,459	737	934	604	1,345	940	1,205	665	2,029
1989	17,209	9,553	728	835	548	1,385	1,042	1,164	671	2,180
1990	18,261	9,761	828	841	694	1,362	1,021	1,245	650	2,120
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	5,885	4,311	156	156	240	210	214	928	584	1,823
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	7,215	5,043	154	179	282	174	356	963	582	2,353
1980	8,293	5,639	169	212	238	319	342	1,043	777	2,539
1981	8,447	5,436	177	247	201	322	288	1,084	779	2,433
1982	9,343	5,790	197	287	216	324	385	1,178	969	2,302
1983	9,054	5,944	187	275	244	387	430	1,150	1,019	2,225
1984	9,087	5,996	204	327	300	436	373	1,245	1,160	2,286
1985	9,740	6,441	228	368	273	459	422	1,299	1,051	2,384
1986	9,722	6,225	220	321	308	416	396	1,057	916	2,406
1987	9,551	6,257	212	345	267	373	381	1,142	1,027	2,436
1988	10,118	6,307	235	347	303	427	390	1,144	1,175	2,698
1989	11,185	6,813	249	377	315	430	425	1,144	1,175	2,698
1990	12,033	7,238	268	350	363	418	463	1,203	1,351	2,822

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-16. Part-time science and engineering graduate students in land-grant institutions by sex and field: 1975-90

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Year	Engineering									Health fields
	Engineering, total	Aerospace engineering	Chemical engineering	Civil engineering	Electrical engineering	Industrial engineering	Mechanical engineering	Metallurgical & materials engineering	Other engineering	
Total enrollment										
1975	5,066	138	351	953	1,409	563	805	131	716	1,320
1976	5,324	111	330	965	1,313	649	813	112	1,031	1,581
1977	5,463	110	338	923	1,527	768	771	96	930	1,762
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	5,262	96	266	812	1,410	782	736	137	1,023	2,275
1980	5,451	94	313	857	1,376	817	858	181	955	2,729
1981	5,743	101	335	866	1,357	827	823	120	1,314	3,039
1982	6,568	72	320	862	1,748	962	963	130	1,511	3,516
1983	7,394	185	345	963	1,975	979	1,049	142	1,756	2,840
1984	6,680	217	328	994	1,894	1,018	1,143	164	922	2,815
1985	7,401	239	382	1,068	2,277	1,309	1,052	173	901	2,970
1986	7,902	245	325	975	2,447	1,448	1,153	186	1,123	3,021
1987	8,134	217	284	978	2,781	1,434	1,197	176	1,067	3,139
1988	7,819	204	312	1,002	2,584	1,274	1,132	192	1,119	3,436
1989	8,098	206	290	1,091	2,578	1,385	1,072	178	1,298	3,930
1990	9,013	294	308	1,183	2,679	1,352	1,229	237	1,731	4,282
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	5,228	108	319	886	1,472	701	741	93	908	423
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	4,895	95	230	758	1,358	693	686	122	953	470
1980	4,992	89	266	789	1,306	704	796	168	874	534
1981	5,205	98	279	800	1,281	661	754	106	1,226	566
1982	5,902	68	268	773	1,621	789	886	103	1,392	629
1983	6,645	176	309	843	1,821	814	961	112	1,609	479
1984	5,952	207	285	866	1,755	855	1,050	133	801	452
1985	6,557	229	330	920	2,085	1,126	955	132	780	515
1986	6,966	231	277	845	2,220	1,243	1,028	151	971	460
1987	7,147	203	237	842	2,520	1,214	1,092	133	906	532
1988	6,829	189	249	858	2,367	1,033	1,028	152	953	615
1989	7,053	193	245	926	2,330	1,145	983	139	1,092	603
1990	7,829	278	260	1,032	2,372	1,116	1,116	191	1,464	671
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	235	2	19	37	55	67	30	3	22	1,339
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	367	1	36	54	52	89	50	15	70	1,805
1980	459	5	47	68	70	113	62	13	81	2,195
1981	538	3	56	66	76	166	69	14	88	2,473
1982	666	4	32	89	125	173	77	27	119	2,887
1983	749	9	36	120	154	165	88	30	147	3,361
1984	728	10	43	128	139	163	93	31	121	3,363
1985	844	10	52	148	192	183	97	41	121	3,455
1986	936	14	48	130	227	205	125	35	152	3,561
1987	987	14	47	136	261	220	105	43	161	3,607
1988	990	15	63	144	217	241	104	40	166	3,821
1989	1,045	13	45	165	248	240	89	39	206	3,327
1990	1,184	16	48	151	307	236	113	46	267	3,611

1/ Master's-granting institutions were not surveyed in 1978.

NOTE: NA = Not available.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-17. Science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	384,872	393,891	398,011	407,795	419,102	425,150	429,648	439,941	458,943
Total, science/engineering fields	340,707	349,547	352,027	360,722	370,487	375,632	378,274	386,047	401,569
Engineering, total	84,581	91,937	93,644	96,951	103,071	104,644	103,719	104,815	109,299
Aerospace	1,941	2,408	2,445	2,658	2,924	3,121	3,318	3,559	4,006
Agricultural	875	1,269	1,954	1,941	1,054	1,063	1,039	1,031	939
Biomedical	1,116	1,244	1,343	1,373	1,549	1,689	1,758	1,919	2,130
Chemical	7,189	7,563	7,373	7,150	7,012	7,111	6,618	6,460	6,130
Civil	14,510	15,299	15,569	15,248	15,317	14,924	15,022	15,128	15,891
Electrical	22,017	25,213	26,306	28,128	30,008	31,339	31,960	33,161	33,887
Engineering science	2,130	2,261	2,153	2,098	2,162	2,359	2,408	2,077	2,547
Industrial	9,870	9,621	9,820	11,078	12,120	12,690	11,849	11,559	11,816
Mechanical	11,467	12,911	13,855	14,157	15,740	16,304	16,233	16,216	16,879
Metallurgical/materials	3,124	3,447	3,657	3,938	4,170	4,309	4,272	4,544	4,822
Mining	3,449	524	502	489	512	513	4,489	4,418	4,437
Nuclear	1,301	1,203	1,234	1,220	1,265	1,279	1,303	1,323	1,278
Petroleum	586	737	744	782	747	818	742	665	670
Engineering, n.e.c.	8,006	8,537	7,687	7,691	8,251	7,125	6,711	6,755	7,263
Sciences, total	256,126	257,610	258,383	263,771	267,416	270,988	274,555	281,232	292,270
Physical sciences	28,199	29,466	30,064	30,995	32,260	32,738	32,972	33,628	34,337
Astronomy	632	618	639	671	689	722	731	789	811
Chemistry	17,015	17,801	17,756	18,309	18,745	18,824	18,578	18,817	19,142
Physics	10,306	10,811	11,335	11,677	12,443	12,810	13,312	13,660	13,985
Physical sciences, n.e.c.	246	236	334	338	383	382	351	362	399
Earth, atmospheric, and ocean sciences	15,174	15,544	15,612	15,545	15,163	14,522	14,032	13,848	14,159
Atmospheric sciences	889	896	907	964	961	952	940	912	929
Geosciences	9,621	10,321	10,370	10,294	9,819	8,998	8,495	8,082	7,742
Oceanography	2,091	2,063	2,102	2,081	2,128	2,127	2,033	2,207	2,252
Earth, atmos., and ocean sci., n.e.c.	2,573	2,264	2,233	2,206	2,255	2,445	2,564	2,647	2,236
Mathematical sciences	17,199	17,397	17,478	17,613	17,990	18,573	19,141	19,382	19,884
Computer sciences	19,812	23,616	25,810	29,844	31,425	32,137	32,787	32,846	34,507
Agricultural sciences	12,314	12,290	12,062	11,380	11,329	11,004	11,000	11,038	11,183
Biological sciences	46,310	46,055	46,171	46,538	47,216	47,452	48,316	49,617	50,921
Anatomy	1,074	1,037	1,029	993	973	1,016	1,056	1,078	1,011
Biochemistry	4,124	4,234	4,490	4,691	4,909	4,848	4,958	5,157	5,153
Biology	13,397	13,071	12,905	12,732	12,707	12,508	12,602	12,958	13,258
Biometry/epidemiology	1,166	1,156	1,004	1,360	1,441	1,617	1,743	1,789	1,966
Biophysics	440	450	433	441	547	591	592	655	642
Botany	3,644	3,450	3,404	3,335	3,290	3,140	3,083	3,001	2,884
Cell biology	1,143	1,182	1,256	1,429	1,716	1,964	2,078	2,234	2,592
Ecology	1,051	1,007	1,088	1,028	1,012	963	1,028	1,109	1,177
Entomology/parasitology	1,540	1,475	1,438	1,342	1,306	1,244	1,240	1,181	1,194
Genetics	990	1,035	1,059	1,120	1,262	1,314	1,289	1,365	1,408
Microbiology	4,130	4,262	4,326	4,447	4,374	4,457	4,774	4,817	4,874
Nutrition	4,359	4,351	4,277	4,314	4,321	4,288	4,228	4,259	4,259
Pathology	1,460	1,462	1,468	1,355	1,398	1,442	1,400	1,428	1,424
Pharmacology	2,084	2,140	2,122	2,181	2,159	2,154	2,210	2,353	2,438
Physiology	2,058	1,994	2,160	2,211	2,220	2,213	2,220	2,206	2,276
Zoology	2,503	2,430	2,303	2,135	2,083	2,113	2,034	2,089	2,110
Biosciences, n.e.c.	1,147	1,319	1,409	1,424	1,498	1,580	1,781	1,938	2,255
Psychology	40,082	41,039	41,074	41,308	41,551	42,888	44,389	46,304	48,659
Social sciences	77,036	72,203	70,112	70,548	70,482	71,674	71,918	74,569	78,620
Agricultural economics	2,267	2,295	2,590	2,268	2,248	2,203	2,259	2,276	2,273
Anthropology	3,948	3,644	3,590	3,621	3,195	3,825	3,535	3,128	3,494
Economics (except agricultural)	13,735	13,162	13,599	13,502	12,184	12,135	12,152	12,289	12,432
Geography	3,166	3,060	3,035	2,936	3,055	3,223	3,208	3,511	3,618
History and philosophy of science	256	253	274	272	266	288	288	342	370
Linguistics	2,803	3,022	3,160	3,055	3,109	3,282	3,255	3,355	3,533
Political science	29,887	28,050	25,921	27,012	27,251	27,608	27,856	29,079	30,698
Sociology	2,246	6,920	6,740	6,567	6,504	6,945	7,045	7,358	7,756
Sociology/anthropology	1,133	1,200	1,075	1,034	1,021	982	991	1,022	1,212
Social sciences, n.e.c.	10,595	8,597	9,439	9,281	9,049	9,177	8,929	9,209	10,234
Total, health fields	44,165	44,344	45,984	47,073	48,615	49,518	51,374	53,894	57,374
Dentistry	836	776	850	835	938	1,057	1,085	1,007	969
Neurology	204	261	317	337	383	494	600	706	810
Nursing	16,254	16,945	17,987	17,962	18,424	18,479	18,987	19,812	21,320
Pharmaceutical sciences	2,519	2,570	2,447	2,479	2,603	2,530	2,535	2,836	2,963
Preventive medicine/community health	6,816	6,679	6,841	7,292	7,226	7,560	7,671	7,680	8,261
Speech pathology/audiology	8,592	7,865	7,777	8,016	7,959	7,492	7,738	8,177	8,608
Veterinary sciences	471	466	557	637	630	731	752	801	900
Clinical medicine, n.e.c.	1,738	1,643	1,571	1,727	1,698	1,780	1,848	1,804	1,839
Health related, n.e.c.	6,735	7,139	7,637	7,788	8,754	9,395	10,158	11,071	11,704

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-18. Science and engineering graduate students in all institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all institutions	384,872	393,891	398,011	407,795	419,102	425,150	429,648	439,941	458,943
New England	30,215	31,124	29,020	29,898	30,441	30,408	33,246	32,749	34,324
Connecticut	6,718	6,898	6,105	6,391	6,356	6,581	7,049	7,117	7,443
Maine	416	509	580	523	538	614	649	667	689
Massachusetts	19,796	20,262	19,034	19,654	20,044	19,650	21,703	21,032	22,179
New Hampshire	839	857	803	829	878	882	7,103	1,131	1,175
Rhode Island	1,806	1,924	1,834	1,883	1,993	2,074	2,068	2,138	2,162
Vermont	640	674	664	618	632	607	674	664	676
Middle Atlantic	70,964	73,049	69,142	70,041	71,744	71,356	77,333	78,224	80,827
New Jersey	10,119	10,251	10,829	11,037	11,046	11,400	11,915	11,632	11,674
New York	42,630	44,101	41,215	41,636	42,904	42,219	45,599	46,069	47,648
Pennsylvania	18,215	18,697	17,098	17,368	17,794	17,737	19,819	20,523	21,505
East North Central	65,599	67,934	64,963	65,844	68,712	71,269	75,854	78,133	81,426
Illinois	19,024	19,697	18,919	19,697	20,335	21,260	22,865	23,612	24,381
Indiana	8,281	8,567	7,651	7,157	7,916	8,249	8,787	9,357	9,769
Michigan	12,693	13,229	13,613	13,757	14,617	14,813	14,935	15,890	16,570
Ohio	16,976	17,750	16,921	17,484	18,017	18,940	20,264	19,911	20,924
Wisconsin	8,625	8,691	7,859	7,749	7,827	8,007	9,003	9,363	9,782
West North Central	24,801	25,797	23,846	24,385	24,902	25,139	27,775	28,713	29,625
Iowa	4,490	4,749	4,517	4,651	4,810	4,818	5,139	5,192	5,516
Kansas	4,736	5,106	4,397	4,257	4,265	4,418	4,758	5,156	5,325
Minnesota	5,638	5,846	5,255	5,641	5,570	5,373	6,986	7,246	6,979
Missouri	6,132	6,132	5,830	5,940	6,339	6,521	6,748	6,877	7,405
Nebraska	2,143	2,229	2,165	2,139	2,130	2,238	2,346	2,380	2,519
North Dakota	930	946	906	949	970	915	947	947	886
South Dakota	732	789	776	808	818	856	851	915	995
South Atlantic	54,790	52,625	53,137	55,156	57,864	59,692	63,156	65,208	68,623
Delaware	1,173	1,180	1,112	1,150	1,189	1,303	1,198	1,257	1,378
District of Columbia	8,370	8,847	8,312	8,679	9,246	9,323	8,876	8,316	8,508
Florida	10,876	9,299	9,099	9,994	10,047	10,862	12,198	12,599	13,560
Georgia	6,117	6,978	6,290	6,005	6,386	6,726	6,278	6,597	8,169
Maryland	7,316	7,755	7,671	7,693	8,059	8,078	9,043	9,597	9,827
North Carolina	7,671	8,015	7,858	7,829	8,353	8,410	9,023	9,555	9,860
South Carolina	5,940	5,021	5,966	5,007	5,326	5,385	3,309	3,679	3,679
Virginia	5,155	5,311	5,740	5,823	5,321	5,768	10,226	10,547	11,418
West Virginia	3,172	2,219	2,059	1,976	1,937	1,837	2,005	2,018	2,224
East South Central	14,150	14,785	14,405	14,617	15,216	15,488	17,813	18,854	19,511
Alabama	3,579	3,683	3,824	4,187	4,506	4,830	5,329	5,779	6,334
Kentucky	3,266	3,341	3,837	3,745	3,751	3,894	3,957	4,109	3,916
Mississippi	2,108	2,288	2,512	2,443	2,573	2,505	2,680	2,745	2,698
Tennessee	5,197	5,473	5,232	5,242	5,386	5,259	5,847	6,221	6,563
West South Central	34,366	37,051	34,498	34,873	35,408	35,207	37,687	39,855	42,372
Arkansas	1,682	1,720	1,182	1,181	1,161	1,180	1,723	1,716	1,891
Louisiana	4,483	4,806	4,848	4,814	4,648	4,564	4,745	4,859	5,201
Oklahoma	3,618	3,940	3,881	4,008	4,105	4,360	4,172	4,330	4,668
Texas	24,583	26,585	24,587	24,870	25,494	25,103	27,047	28,950	30,612
Mountain	22,607	22,751	22,266	23,302	24,079	24,838	25,217	25,607	27,519
Arizona	6,140	6,147	6,212	6,743	6,834	6,938	7,254	7,443	7,552
Colorado	6,735	6,425	6,150	6,468	7,108	7,440	7,367	7,313	8,554
Idaho	937	1,004	1,008	1,041	1,035	1,173	1,225	1,405	1,560
Montana	1,035	1,094	1,086	1,049	980	970	1,050	1,065	1,084
Nevada	600	722	561	547	505	609	880	1,043	1,183
New Mexico	2,595	2,741	2,549	2,655	2,723	2,926	2,894	2,774	2,945
Utah	3,763	3,783	3,921	3,986	4,154	4,043	3,850	3,762	3,790
Wyoming	802	835	779	813	740	739	697	802	851
Pacific	65,345	66,480	60,807	63,430	64,313	65,346	69,270	70,240	72,177
Alaska	564	604	352	381	399	387	537	580	680
California	53,437	54,379	49,943	52,408	53,152	54,187	56,791	57,853	59,033
Hawaii	1,828	1,782	1,702	1,705	1,820	1,822	1,829	1,857	1,984
Oregon	3,217	3,358	3,234	3,262	3,429	3,454	3,634	3,612	3,851
Washington	6,299	6,357	5,756	5,674	5,513	5,496	6,479	6,338	6,629
Outlying areas	2,035	2,295	2,436	2,552	2,520	2,298	2,297	2,358	2,539
State unknown 2/	0	0	23,491	23,697	23,903	24,109	0	0	0

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

2/ These numbers represent the total of all nonsampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-19. Male science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	247,879	253,038	254,554	260,312	266,826	270,014	268,292	271,590	279,492
Total, science/engineering fields	236,602	242,234	243,683	249,089	255,324	257,686	256,113	258,889	266,292
Engineering, total	75,615	81,958	83,109	85,619	90,402	91,555	90,394	91,015	94,338
Aerospace	1,831	2,283	2,311	2,490	2,722	2,895	3,086	3,314	3,714
Agricultural	818	896	872	863	970	967	953	944	838
Biomedical	897	974	1,054	1,082	1,203	1,292	1,316	1,450	1,587
Chemical	6,288	6,547	6,401	6,146	5,975	5,957	5,543	5,431	5,390
Civil	12,608	13,297	13,402	12,972	13,055	12,746	12,657	12,624	13,109
Electrical	20,466	23,157	24,112	25,719	27,104	28,263	28,705	29,661	30,107
Engineering science	1,864	1,971	1,861	1,858	2,065	2,068	2,135	1,851	2,195
Industrial	8,216	8,044	8,082	9,135	9,859	10,344	9,618	9,531	9,569
Mechanical	10,748	12,106	12,899	13,146	14,578	15,015	14,812	14,807	15,419
Metallurgical/materials	2,704	2,999	3,189	3,338	3,507	3,604	3,540	3,753	3,978
Mining	4,099	4,777	4,558	4,459	4,76	4,73	4,41	3,72	3,79
Nuclear	1,215	1,119	1,146	1,113	1,142	1,151	1,176	1,182	1,123
Petroleum	544	665	684	716	699	764	693	637	637
Engineering, n.e.c.	7,007	7,423	6,638	6,582	7,049	6,016	5,719	5,680	6,097
Sciences, total	160,987	160,276	160,574	163,470	164,922	166,131	165,719	167,874	171,954
Physical sciences	22,776	23,586	23,904	24,483	25,395	25,620	25,473	25,825	26,223
Astronomy	531	526	561	563	568	602	591	649	646
Chemistry	12,855	13,289	13,116	13,518	13,719	13,648	13,112	13,154	13,280
Physics	9,238	9,609	10,043	10,179	10,866	11,137	11,561	11,792	12,047
Physical sciences, n.e.c.	152	162	204	223	242	233	209	230	250
Earth, atmospheric, and ocean sciences	11,393	11,593	11,694	11,571	11,183	10,708	10,164	9,923	9,994
Atmospheric sciences	764	766	769	807	782	777	774	734	744
Geosciences	7,318	7,808	7,882	7,810	7,463	6,834	6,383	6,106	5,798
Oceanography	1,514	1,497	1,501	1,471	1,461	1,493	1,388	1,482	1,500
Earth, atmos., and ocean sci., n.e.c.	1,797	1,522	1,542	1,483	1,477	1,597	1,616	1,601	1,952
Mathematical sciences	12,109	12,184	12,295	12,227	12,501	12,944	13,348	13,359	13,646
Computer sciences	14,366	16,968	18,905	22,387	23,677	24,233	24,564	24,880	26,316
Agricultural sciences	9,314	9,183	8,963	8,422	8,384	8,061	7,927	7,924	7,865
Biological sciences	27,021	26,572	26,510	26,482	26,581	26,715	26,768	27,089	27,502
Anatomy	669	632	605	569	560	578	598	598	554
Biochemistry	2,630	2,658	2,811	2,943	3,014	2,946	2,950	3,108	3,029
Biology	7,534	7,534	7,400	7,237	7,166	7,196	7,095	7,155	7,248
Biometry/epidemiology	330	338	326	331	367	460	786	904	904
Biophysics	330	338	326	331	367	460	786	904	904
Botany	2,329	2,201	2,165	2,095	2,119	1,944	1,915	1,857	1,752
Cell biology	726	774	789	911	1,044	1,199	1,233	1,290	1,460
Ecology	684	666	741	661	630	622	622	620	681
Entomology/parasitology	1,158	1,090	1,066	992	948	906	881	817	832
Genetics	461	512	547	597	665	673	660	675	681
Microbiology	2,318	2,385	2,408	2,490	2,429	2,459	2,617	2,578	2,554
Nutrition	1,368	1,326	1,319	1,349	1,307	1,341	1,232	1,252	1,282
Pathology	872	883	872	787	825	836	826	829	814
Pharmacology	1,356	1,375	1,324	1,345	1,315	1,275	1,328	1,348	1,378
Physiology	1,367	1,297	1,388	1,375	1,366	1,378	1,357	1,313	1,327
Zoology	1,651	1,609	1,483	1,372	1,307	1,316	1,246	1,296	1,274
Biosciences, n.e.c.	668	745	794	788	809	868	981	1,061	1,247
Psychology	16,977	16,687	16,216	15,778	15,459	15,744	15,643	15,906	15,963
Social sciences	47,031	43,503	42,087	42,120	41,742	42,106	41,832	42,968	44,445
Agricultural economics	1,804	1,807	1,791	1,761	1,747	1,696	1,713	1,694	1,674
Anthropology	2,677	2,438	2,439	2,507	2,457	2,479	2,497	2,548	2,680
Economics (except agricultural)	10,237	9,939	9,544	9,416	9,144	9,071	9,007	8,983	9,013
Geography	2,195	2,051	2,050	1,988	2,071	2,130	2,153	2,317	2,377
History and philosophy of science	167	161	187	180	169	198	184	217	236
Linguistics	1,180	1,217	1,259	1,198	1,252	1,305	1,297	1,345	1,422
Political science	18,616	17,277	16,161	16,492	16,511	16,672	16,444	16,995	17,518
Sociology	3,376	3,255	3,120	3,085	2,965	3,135	3,241	3,392	3,484
Sociology/anthropology	553	586	525	496	482	472	443	454	506
Social sciences, n.e.c.	6,226	4,772	5,011	4,997	4,944	4,948	4,853	5,023	5,535
Total, health fields	11,277	10,804	10,871	11,223	11,502	12,328	12,179	12,701	13,200
Dentistry	676	607	664	648	731	776	791	717	684
Neurology	140	189	208	208	237	308	357	422	454
Nursing	717	747	786	795	815	1,098	909	1,071	1,054
Pharmaceutical sciences	1,751	1,729	1,588	1,611	1,663	1,545	1,503	1,674	1,789
Preventive medicine/community health	2,986	2,821	2,793	2,973	3,049	3,384	3,181	2,908	3,214
Speech pathology/audiology	1,191	1,010	1,024	1,071	925	737	833	805	801
Veterinary sciences	297	289	346	401	394	453	452	470	512
Clinical medicine, n.e.c.	949	844	767	790	798	864	883	895	959
Health related, n.e.c.	2,570	2,568	2,695	2,726	2,890	3,163	3,270	3,739	3,733

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-20. Male science and engineering graduate students in all institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all institutions	247,879	253,038	254,554	260,312	266,826	270,014	268,292	271,590	279,492
New England	20,128	20,745	19,769	20,131	20,029	20,022	21,120	20,582	21,297
Connecticut	4,377	4,541	4,042	4,271	3,944	4,085	4,226	4,274	4,398
Maine	378	339	386	336	353	416	433	446	450
Massachusetts	13,374	13,551	13,670	13,371	13,504	13,275	14,041	13,451	13,952
New Hampshire	569	570	530	526	557	556	698	722	753
Rhode Island	1,135	1,248	1,194	1,241	1,318	1,358	1,338	1,324	1,353
Vermont	395	396	441	386	353	332	384	385	391
Middle Atlantic	43,923	44,873	42,980	43,642	45,127	44,869	47,113	47,416	48,251
New Jersey	6,614	6,802	7,481	7,636	7,577	8,192	8,300	8,092	7,885
New York	24,964	25,596	23,990	24,371	25,632	25,011	26,369	26,404	27,000
Pennsylvania	12,345	12,475	11,509	11,635	11,918	11,666	12,444	12,920	13,366
East North Central	42,677	44,019	42,353	42,996	44,050	45,779	47,405	48,292	49,846
Illinois	11,857	12,418	12,078	12,426	12,562	13,149	13,935	14,054	14,610
Indiana	5,552	5,619	4,765	4,864	5,055	5,311	5,513	5,856	5,937
Michigan	8,593	8,970	9,217	9,184	9,657	9,977	9,819	10,322	10,598
Ohio	11,146	11,469	11,152	11,406	11,666	12,214	12,565	12,278	12,697
Wisconsin	5,529	5,543	5,141	5,116	5,110	5,128	5,573	5,782	6,004
West North Central	16,347	16,847	15,753	15,963	16,360	16,416	17,794	18,014	18,101
Iowa	3,136	3,329	3,137	3,185	3,267	3,246	3,461	3,477	3,590
Kansas	2,852	3,055	2,743	2,618	2,613	2,744	2,936	3,095	3,083
Minnesota	3,553	3,570	3,285	3,638	3,668	3,516	4,246	4,262	4,066
Missouri	4,121	4,081	3,934	3,952	4,228	4,278	4,375	4,413	4,569
Nebraska	1,496	1,523	1,455	1,360	1,378	1,417	1,556	1,532	1,565
North Dakota	682	718	655	660	675	644	647	646	612
South Dakota	507	571	544	550	531	571	573	589	616
South Atlantic	34,579	33,303	33,795	34,755	36,710	37,419	38,420	39,015	40,497
Delaware	726	755	709	738	770	855	795	830	910
District of Columbia	5,472	5,201	5,537	5,665	5,939	5,747	5,249	4,741	4,817
Florida	7,498	6,079	5,975	6,431	6,571	6,859	5,297	4,718	8,102
Georgia	4,071	4,043	4,224	4,025	4,272	4,580	4,841	4,911	4,995
Maryland	4,048	4,262	4,159	4,255	4,427	4,590	5,037	5,342	5,396
North Carolina	4,645	4,874	4,863	4,698	5,133	5,022	5,416	5,573	5,721
South Carolina	1,979	1,991	2,045	1,958	2,238	2,296	2,153	2,282	2,358
Virginia	4,481	4,656	4,081	5,761	6,096	6,381	6,345	6,488	6,952
West Virginia	1,659	1,442	1,302	1,224	1,264	1,069	1,137	1,130	1,246
East South Central	8,883	9,364	9,295	9,269	9,783	9,822	11,254	11,635	11,896
Alabama	2,201	2,280	2,403	2,647	2,884	3,009	3,328	3,540	3,901
Kentucky	2,070	2,134	1,787	1,764	1,790	1,834	1,505	1,566	2,376
Mississippi	1,338	1,509	1,677	1,597	1,693	1,658	1,723	1,720	1,751
Tennessee	3,274	3,441	3,428	3,261	3,416	3,321	3,698	3,809	3,868
West South Central	22,071	23,844	22,463	22,812	23,159	23,532	23,843	25,026	26,467
Arkansas	1,052	1,039	834	806	797	804	928	890	921
Louisiana	2,903	3,137	3,211	3,190	3,113	3,107	3,097	3,155	3,368
Oklahoma	2,564	2,771	2,693	2,819	2,922	3,028	2,789	2,831	3,051
Texas	15,552	16,897	15,725	15,997	16,327	16,593	17,029	18,150	19,127
Mountain	15,517	15,779	15,256	15,987	16,354	16,836	16,949	17,075	17,924
Arizona	4,190	4,253	4,213	4,547	4,611	4,781	4,841	4,920	4,857
Colorado	4,413	4,203	3,948	4,088	4,521	4,580	4,639	4,668	5,389
Idaho	725	773	783	781	775	877	894	993	1,062
Montana	712	753	725	710	640	675	747	732	711
Nevada	374	458	404	416	351	420	588	660	785
New Mexico	1,777	1,934	1,780	1,844	1,884	2,052	1,956	1,896	1,998
Utah	2,716	2,734	2,819	2,901	2,979	2,881	2,762	2,667	2,594
Wyoming	610	671	584	700	593	570	522	539	528
Pacific	42,859	43,429	40,350	42,113	42,556	42,594	43,524	43,677	44,271
Alaska	406	420	258	275	293	274	353	373	420
California	35,049	35,329	32,998	34,744	35,098	35,216	35,566	35,867	36,150
Hawaii	1,085	1,049	1,013	984	1,102	1,087	1,058	1,092	1,135
Oregon	2,277	2,386	2,316	2,318	2,475	2,493	2,582	2,513	2,665
Washington	4,042	4,245	3,765	3,792	3,588	3,524	3,965	3,832	3,901
Outlying areas	895	835	1,086	1,101	1,058	995	870	858	942
State unknown 2/	0	0	11,454	11,543	11,640	11,730	0	0	0

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

2/ These numbers represent the total of all nonsampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-21. Female science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	136,993	140,853	143,457	147,483	152,276	155,136	161,356	168,351	179,451
Total, science/engineering fields	104,105	107,313	108,344	111,633	115,163	117,946	122,161	127,158	135,277
Engineering, total	8,966	9,979	10,535	11,332	12,669	13,089	13,325	13,800	14,961
Aerospace	110	125	134	148	202	226	232	245	292
Agricultural	57	73	82	78	84	96	86	87	101
Biomedical	219	270	291	291	346	397	439	469	543
Chemical	901	1,016	972	1,004	1,039	1,154	1,075	1,029	1,144
Civil	1,902	2,002	2,167	2,276	2,302	2,178	2,365	2,504	2,786
Electrical	1,551	2,056	2,194	2,409	2,904	3,076	3,255	3,500	3,780
Engineering science	266	290	292	240	297	291	273	248	352
Industrial	1,654	1,577	1,738	1,943	2,261	2,346	2,231	2,228	2,247
Mechanical	719	805	956	1,011	1,162	1,289	1,421	1,409	1,460
Metallurgical/materials	420	448	468	600	663	705	732	791	844
Mining	40	47	44	30	36	40	48	46	58
Nuclear	86	84	88	107	123	128	127	141	155
Petroleum	42	72	60	66	48	54	49	28	33
Engineering, n.e.c.	999	1,114	1,049	1,109	1,202	1,109	992	1,075	1,166
Sciences, total	95,139	97,334	97,809	100,301	102,494	104,857	108,836	113,358	120,316
Physical sciences	5,423	5,880	6,160	6,512	6,865	7,118	7,499	7,803	8,114
Astronomy	101	92	98	108	121	120	140	140	165
Chemistry	4,160	4,512	4,640	4,791	5,026	5,176	5,466	5,663	5,862
Physics	1,068	1,202	1,292	1,498	1,577	1,673	1,751	1,868	1,938
Physical sciences, n.e.c.	94	74	130	115	141	149	142	132	149
Earth, atmospheric, and ocean sciences	3,781	3,951	3,918	3,974	3,980	3,814	3,868	3,925	4,165
Atmospheric sciences	125	130	138	157	179	168	163	178	185
Geosciences	2,303	2,513	2,488	2,484	2,356	2,164	2,112	1,976	1,944
Oceanography	577	566	601	610	667	634	645	725	752
Earth, atmos., and ocean sci., n.e.c.	776	742	691	723	778	848	948	1,046	1,284
Mathematical sciences	5,090	5,213	5,183	5,386	5,489	5,629	5,793	6,023	6,238
Computer sciences	5,446	6,648	6,905	7,457	7,748	7,904	8,223	7,966	8,191
Agricultural sciences	3,000	3,107	3,099	2,958	2,945	2,943	3,073	3,114	3,318
Biological sciences	19,289	19,483	19,661	20,056	20,635	20,737	21,548	22,528	23,419
Anatomy	405	405	424	424	413	438	458	480	457
Biochemistry	1,494	1,576	1,679	1,748	1,895	1,902	2,008	2,049	2,124
Biology	5,524	5,537	5,505	5,495	5,541	5,312	5,509	5,803	6,010
Biometry/epidemiology	605	609	532	720	774	855	957	1,031	1,062
Biophysics	110	112	107	110	137	141	149	162	164
Botany	1,315	1,248	1,239	1,240	1,171	1,196	1,168	1,144	1,132
Cell biology	417	408	467	518	672	765	845	944	1,132
Ecology	367	341	347	367	382	375	406	448	489
Entomology/parasitology	382	385	372	350	358	338	359	364	362
Genetics	529	523	512	523	597	641	629	690	727
Microbiology	1,812	1,877	1,918	1,957	1,945	1,998	2,157	2,239	2,320
Nutrition	2,991	3,025	2,958	2,965	3,014	2,967	2,996	3,007	2,977
Pathology	588	579	596	568	573	606	574	599	610
Pharmacology	728	765	798	836	844	879	882	1,005	1,060
Physiology	691	697	772	836	854	835	863	893	949
Zoology	852	821	820	763	776	797	788	793	836
Biosciences, n.e.c.	479	574	615	636	689	712	800	877	1,008
Psychology	23,105	24,352	24,858	25,530	26,092	27,144	28,746	30,398	32,696
Social sciences	30,005	28,700	28,025	28,428	28,740	29,568	30,086	31,601	34,175
Agricultural economics	463	488	488	507	501	507	546	582	599
Anthropology	3,271	3,206	3,151	3,114	3,338	3,346	3,438	3,580	3,814
Economics (except agricultural)	3,498	3,223	3,055	3,086	3,040	3,064	3,145	3,306	3,419
Geography	971	1,009	985	948	984	1,093	1,055	1,194	1,241
History and philosophy of science	89	92	87	92	97	96	104	125	134
Linguistics	1,623	1,805	1,901	1,857	1,857	1,977	1,958	2,010	2,111
Political science	11,271	10,773	9,760	10,520	10,740	10,936	11,412	12,084	13,180
Sociology	3,870	3,665	3,620	3,482	3,539	3,810	3,804	3,966	4,272
Sociology/anthropology	580	614	550	538	539	510	548	568	706
Social sciences, n.e.c.	4,369	3,825	4,428	4,284	4,105	4,229	4,076	4,186	4,699
Total, health fields	32,888	33,540	35,113	35,850	37,113	37,190	39,195	41,193	44,174
Dentistry	160	169	186	187	207	281	294	290	285
Neurology	64	72	109	129	146	186	243	284	356
Nursing	15,537	16,198	17,201	17,167	17,609	17,381	18,078	18,741	20,266
Pharmaceutical sciences	768	841	859	868	940	985	1,032	1,162	1,174
Preventive medicine/community health ...	3,830	3,858	4,048	4,319	4,177	4,176	4,490	4,772	5,047
Speech pathology/audiology	7,401	6,855	6,753	6,945	7,034	6,755	6,905	7,372	7,807
Veterinary sciences	174	177	211	236	236	278	300	331	388
Clinical medicine, n.e.c.	789	799	804	937	900	916	965	909	880
Health related, n.e.c.	4,165	4,571	4,942	5,062	5,864	6,232	6,888	7,332	7,971

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-22. Female science and engineering graduate students in all institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all institutions	136,993	140,853	143,457	147,483	152,276	155,136	161,356	168,351	179,451
New England	10,087	10,379	9,251	9,767	10,412	10,386	12,126	12,167	13,027
Connecticut	2,341	2,357	2,063	2,120	2,412	2,496	2,823	2,843	3,045
Maine	138	170	194	187	185	198	216	221	239
Massachusetts	6,422	6,611	5,858	6,283	6,540	6,375	7,662	7,601	8,227
New Hampshire	270	287	273	303	321	326	405	409	422
Rhode Island	671	676	640	642	675	716	730	814	809
Vermont	245	278	223	232	279	275	290	279	285
Middle Atlantic	27,041	28,176	26,162	26,399	26,617	26,487	30,220	30,808	32,576
New Jersey	3,505	3,449	3,348	3,401	3,469	3,208	3,615	3,540	3,789
New York	17,666	18,505	17,225	17,265	17,272	17,208	19,230	19,665	20,648
Pennsylvania	5,870	6,222	5,589	5,733	5,876	6,071	7,375	7,603	8,139
East North Central	22,922	23,915	22,610	22,848	24,662	25,490	28,449	29,841	31,580
Illinois	7,167	7,279	6,841	7,271	7,773	8,111	8,930	9,558	9,771
Indiana	2,729	2,948	2,886	2,293	2,861	2,938	3,274	3,501	3,832
Michigan	4,100	4,259	4,396	4,573	4,960	4,836	5,116	5,568	5,972
Ohio	5,830	6,281	5,769	6,078	6,351	6,726	7,699	7,633	8,227
Wisconsin	3,096	3,148	2,718	2,633	2,717	2,879	3,430	3,581	3,778
West North Central	8,454	8,950	8,093	8,422	8,542	8,723	9,981	10,699	11,524
Iowa	1,354	1,420	1,380	1,466	1,543	1,572	1,678	1,715	1,926
Kansas	1,884	2,051	1,654	1,639	1,652	1,674	1,822	2,061	2,242
Minnesota	2,085	2,276	1,970	2,003	1,902	1,857	2,740	2,984	3,913
Missouri	2,011	2,051	1,896	1,988	2,111	2,243	2,373	2,464	2,836
Nebraska	647	706	710	779	752	821	790	848	954
North Dakota	248	228	251	289	295	271	300	301	274
South Dakota	225	218	232	258	287	285	278	326	379
South Atlantic	20,211	19,322	19,342	20,401	21,154	22,273	24,736	26,193	28,126
Delaware	447	425	403	412	419	448	403	427	468
District of Columbia	2,898	2,646	2,775	3,014	3,307	3,556	3,607	3,575	3,691
Florida	2,378	2,220	2,124	2,563	2,766	2,903	3,771	4,035	4,588
Georgia	946	935	966	1,980	1,114	2,146	2,437	2,688	2,174
Maryland	268	293	512	438	632	488	2,006	2,255	2,431
North Carolina	5,026	4,141	3,995	3,131	3,220	3,388	3,607	3,982	4,139
South Carolina	961	1,030	951	1,049	1,088	1,089	1,156	1,284	1,321
Virginia	2,674	2,655	2,759	3,062	3,225	3,387	3,881	4,059	4,466
West Virginia	1,513	777	757	752	673	768	868	888	978
East South Central	5,267	5,421	5,110	5,348	5,433	5,666	6,559	7,219	7,615
Alabama	1,378	1,403	1,421	1,540	1,622	1,821	2,001	2,239	2,433
Kentucky	1,196	1,207	1,050	981	961	1,060	1,452	1,543	1,540
Mississippi	770	779	835	846	880	847	957	1,025	947
Tennessee	1,923	2,032	1,804	1,981	1,970	1,938	2,149	2,412	2,695
West South Central	12,295	13,207	12,035	12,061	12,249	11,675	13,844	14,829	15,905
Arkansas	630	681	348	375	364	376	795	826	970
Louisiana	1,580	1,669	1,637	1,624	1,535	1,457	1,648	1,704	1,833
Oklahoma	1,054	1,169	1,188	1,189	1,183	1,332	1,383	1,499	1,617
Texas	9,031	9,688	8,862	8,873	9,167	8,510	10,018	10,800	11,485
Mountain	7,090	6,972	7,010	7,315	7,725	8,002	8,268	8,532	9,595
Arizona	1,950	1,894	1,999	2,196	2,223	2,157	2,413	2,523	2,695
Colorado	2,322	2,222	2,202	2,380	2,587	2,860	2,728	2,645	3,165
Idaho	212	231	225	260	260	296	331	412	498
Montana	323	341	361	339	340	295	303	333	373
Nevada	226	264	157	131	154	189	292	383	398
New Mexico	818	807	769	811	839	874	938	878	947
Utah	1,047	1,049	1,102	1,085	1,175	1,162	1,088	1,095	1,196
Wyoming	192	164	195	113	147	169	175	263	323
Pacific	22,486	23,051	20,457	21,317	21,757	22,752	25,746	26,563	27,906
Alaska	158	184	94	106	106	113	184	207	260
California	18,388	19,050	16,945	17,664	18,054	18,971	21,225	21,986	22,883
Hawaii	743	733	689	721	718	735	771	765	849
Oregon	940	972	918	944	954	961	1,052	1,099	1,186
Washington	2,257	2,112	1,811	1,882	1,925	1,972	2,514	2,506	2,728
Outlying areas	1,140	1,460	1,350	1,451	1,462	1,303	1,427	1,500	1,597
State unknown 2/	0	0	12,037	12,154	12,263	12,379	0	0	0

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

2/ These numbers represent the total of all nonsampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-23. Science and engineering graduate students in public institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	259,257	267,264	271,654	276,562	286,440	291,505	295,621	306,117	321,472
Total, science/engineering fields	228,082	236,059	239,266	243,502	251,758	255,599	258,492	266,744	279,622
Engineering, total	53,123	57,693	58,783	61,299	66,011	68,793	68,953	71,299	75,383
Aerospace	1,332	1,716	1,775	1,941	2,158	2,332	2,435	2,638	3,054
Agricultural	821	916	900	888	1,003	1,015	994	981	891
Biomedical	648	707	759	768	944	1,056	1,104	1,208	1,278
Chemical	4,822	5,057	4,959	4,841	4,805	4,807	4,557	4,519	4,844
Civil	9,966	10,715	11,055	10,919	11,009	11,322	11,428	11,514	12,037
Electrical	12,329	13,675	14,328	15,994	17,645	19,087	19,382	20,391	21,197
Engineering science	1,260	1,367	1,228	1,139	1,296	1,293	1,292	1,257	1,679
Industrial	2,431	2,470	2,444	2,424	2,464	2,410	2,410	2,410	2,410
Mechanical	7,431	8,470	9,056	9,494	10,642	11,231	11,150	11,087	11,710
Metallurgical/materials	1,850	2,026	2,211	2,369	2,574	2,664	2,614	2,864	3,124
Mining	377	456	434	424	442	443	421	358	361
Nuclear	1,018	963	1,011	1,009	1,058	1,075	1,092	1,107	1,073
Petroleum	321	464	496	567	592	632	585	531	539
Engineering, n.e.c.	6,008	6,440	5,527	5,168	5,579	5,426	5,310	5,587	6,052
Sciences, total	174,959	178,366	180,483	182,203	185,747	186,806	189,539	195,445	204,239
Physical sciences	20,117	21,019	21,459	22,046	23,197	23,566	23,804	24,247	24,900
Astronomy	420	419	433	442	469	492	495	516	536
Chemistry	12,303	12,906	12,852	13,167	13,563	13,647	13,497	13,634	13,848
Physics	7,148	7,458	7,840	8,123	8,826	9,116	9,501	9,756	10,138
Physical sciences, n.e.c.	246	236	334	314	339	311	311	341	378
Earth, atmospheric, and ocean sciences	12,727	13,058	13,149	13,065	12,779	12,232	11,786	11,555	11,855
Atmospheric sciences	791	843	856	906	903	892	887	883	901
Geosciences	7,982	8,556	8,585	8,561	8,176	7,488	7,043	6,647	6,364
Oceanography	1,798	1,759	1,780	1,707	1,777	1,809	1,757	1,850	1,892
Earth, atmos., and ocean sci., n.e.c.	2,156	1,900	1,928	1,891	1,923	2,043	2,099	2,175	2,698
Mathematical sciences	12,105	12,344	12,600	12,917	13,580	14,155	14,691	14,945	15,616
Computer sciences	11,962	14,358	15,412	17,403	18,325	18,323	18,807	19,367	20,312
Agricultural sciences	11,978	11,941	11,735	11,033	10,998	10,680	10,654	10,709	10,810
Biological sciences	34,177	34,345	34,509	34,682	35,135	35,148	35,824	36,687	37,494
Anatomy	671	694	689	655	636	662	714	750	726
Biochemistry	2,727	2,848	3,017	3,208	3,387	3,291	3,402	3,481	3,512
Biology	9,176	9,364	9,245	9,236	9,198	9,110	9,244	9,525	9,710
Biometry/epidemiology	632	641	657	718	828	907	1,023	1,072	1,165
Biophysics	250	245	220	260	317	356	343	382	356
Botany	3,365	3,183	3,174	3,115	3,058	2,897	2,828	2,742	2,602
Cell biology	635	621	705	742	909	1,063	1,177	1,260	1,472
Ecology	978	926	1,005	955	937	885	916	974	1,030
Entomology/parasitology	1,490	1,426	1,383	1,290	1,256	1,177	1,178	1,115	1,126
Genetics	679	713	717	779	901	948	909	936	998
Microbiology	3,066	3,198	3,215	3,363	3,287	3,352	3,618	3,614	3,642
Nutrition	3,408	3,407	3,350	3,368	3,431	3,459	3,418	3,499	3,545
Pathology	930	971	966	945	953	1,004	945	986	978
Pharmacology	1,419	1,456	1,469	1,493	1,501	1,511	1,560	1,628	1,718
Physiology	1,422	1,396	1,487	1,510	1,489	1,488	1,476	1,515	1,538
Zoology	2,333	2,263	2,157	2,003	1,961	1,994	1,915	1,962	1,976
Biosciences, n.e.c.	996	993	1,053	1,042	1,086	1,044	1,158	1,246	1,400
Psychology	23,376	24,125	24,249	24,486	24,591	24,943	25,894	26,728	28,050
Social sciences	48,517	47,176	47,370	46,571	47,142	47,759	48,079	51,207	55,202
Agricultural economics	2,171	2,204	2,175	2,168	2,171	2,124	2,151	2,165	2,158
Anthropology	4,293	4,061	4,072	4,081	4,141	4,192	4,284	4,477	4,752
Economics (except agricultural)	8,444	8,103	7,878	7,801	7,827	7,684	7,715	7,791	8,016
Geography	2,933	2,840	2,824	2,717	2,871	3,036	3,013	3,325	3,431
History and philosophy of science	148	141	153	138	134	134	149	182	206
Linguistics	1,963	2,095	2,127	1,983	2,073	2,195	2,199	2,326	2,323
Political science	16,841	15,995	15,946	15,941	16,335	16,408	17,006	18,368	20,114
Sociology	5,168	4,998	4,960	4,786	4,825	5,167	5,248	5,535	5,878
Sociology/anthropology	638	610	600	582	613	614	578	713	860
Social sciences, n.e.c.	5,918	6,129	6,635	6,374	6,152	6,205	5,636	6,305	7,264
Total, health fields	31,175	31,205	32,388	33,060	34,682	35,906	37,129	39,373	41,850
Dentistry	611	541	600	562	689	809	833	748	759
Neurology	139	149	183	204	237	295	373	411	456
Nursing	11,501	12,121	12,835	12,673	13,647	13,878	14,454	14,978	15,996
Pharmaceutical sciences	1,726	1,719	1,725	1,785	1,829	1,803	1,871	2,096	2,182
Preventive medicine/community health ...	4,110	4,094	4,161	4,439	4,446	4,827	4,906	5,013	5,747
Speech pathology/audiology	7,383	6,596	6,561	6,569	6,685	6,287	6,494	6,804	7,278
Veterinary sciences	406	401	481	551	548	646	663	718	821
Clinical medicine, n.e.c.	1,165	1,088	1,076	1,095	1,164	1,196	1,235	1,216	1,239
Health related, n.e.c.	4,134	4,496	4,766	5,082	5,437	6,165	6,300	7,389	7,372

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-24. Science and engineering graduate students in private institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	125,615	126,627	126,357	131,233	132,662	133,645	134,027	133,824	137,471
Total, science/engineering fields	112,625	113,488	112,761	117,220	118,729	120,033	119,782	119,303	121,947
Engineering, total	31,458	34,244	34,861	35,652	37,060	35,851	34,766	33,516	33,916
Aerospace	609	692	670	717	766	789	883	921	952
Agricultural	54	53	54	53	51	48	45	50	48
Biomedical	468	542	586	605	605	633	651	711	852
Chemical	2,367	2,506	2,414	2,309	2,207	2,304	2,061	1,941	1,890
Civil	4,544	4,584	4,514	4,329	4,348	3,602	3,594	3,614	3,854
Electrical	9,688	11,538	11,978	12,134	12,363	12,252	12,578	12,770	12,690
Engineering science	870	894	925	959	1,066	1,066	1,116	820	868
Industrial	4,930	4,895	4,776	5,300	5,856	6,280	5,260	4,302	4,272
Mechanical	4,036	4,441	4,799	4,663	5,098	5,073	5,083	5,129	5,169
Metallurgical/materials	1,274	1,421	1,446	1,569	1,596	1,645	1,658	1,680	1,698
Mining	72	68	68	65	70	70	68	60	76
Nuclear	283	240	223	211	207	204	211	216	205
Petroleum	265	273	248	215	155	186	157	134	131
Engineering, n.e.c.	1,998	2,097	2,160	2,523	2,672	1,699	1,401	1,168	1,211
Sciences, total	81,167	79,244	77,900	81,568	81,669	84,182	85,016	85,787	88,031
Physical sciences	8,082	8,447	8,605	8,949	9,063	9,172	9,168	9,381	9,437
Astronomy	215	199	206	229	220	230	236	273	275
Chemistry	4,712	4,895	4,904	5,142	5,182	5,177	5,081	5,183	5,294
Physics	3,158	3,353	3,495	3,554	3,617	3,694	3,811	3,904	3,847
Physical sciences, n.e.c.	0	0	0	24	44	71	40	21	21
Earth, atmospheric, and ocean sciences	2,447	2,486	2,463	2,480	2,384	2,290	2,246	2,293	2,304
Atmospheric sciences	98	53	51	58	58	60	53	29	28
Geosciences	1,639	1,765	1,785	1,733	1,643	1,510	1,452	1,435	1,378
Oceanography	293	304	322	374	351	318	276	357	360
Earth, atmos., and ocean sci., n.e.c.	417	364	305	315	332	402	465	472	538
Mathematical sciences	5,094	5,053	4,878	4,696	4,410	4,418	4,450	4,437	4,268
Computer sciences	7,850	9,258	10,398	12,441	13,100	13,814	13,980	13,479	14,195
Agricultural sciences	336	349	327	347	331	324	346	329	373
Biological sciences	12,133	11,710	11,662	11,856	12,081	12,304	12,492	12,930	13,427
Anatomy	403	343	340	338	337	354	342	328	285
Biochemistry	1,397	1,386	1,473	1,483	1,522	1,557	1,556	1,676	1,641
Biology	4,221	3,707	3,660	3,496	3,509	3,398	3,358	3,433	3,548
Biometry/epidemiology	534	515	347	642	613	710	720	717	801
Biophysics	190	205	213	181	230	235	249	273	286
Botany	279	267	230	220	232	243	255	259	282
Cell biology	508	561	551	687	807	901	901	974	1,120
Ecology	73	81	83	73	75	78	112	135	147
Entomology/parasitology	50	49	55	52	50	67	62	66	68
Genetics	311	322	342	341	361	366	380	429	410
Microbiology	1,064	1,064	1,111	1,084	1,087	1,105	1,156	1,203	1,232
Nutrition	951	944	927	946	890	829	810	760	714
Pathology	530	491	502	410	445	438	455	442	446
Pharmacology	665	684	653	688	658	643	650	725	720
Physiology	636	598	673	701	731	725	744	691	738
Zoology	170	167	146	132	122	119	119	127	134
Biosciences, n.e.c.	151	326	356	382	412	536	623	692	855
Psychology	16,706	16,914	16,825	16,822	16,960	17,945	18,495	19,576	20,609
Social sciences	28,519	25,027	22,742	23,977	23,340	23,915	23,839	23,362	23,418
Agricultural economics	96	91	104	100	77	79	108	111	115
Anthropology	1,655	1,583	1,518	1,540	1,654	1,633	1,651	1,651	1,742
Economics (except agricultural)	5,291	5,059	4,721	4,701	4,357	4,451	4,437	4,498	4,416
Geography	233	220	211	219	184	195	186	186	187
History and philosophy of science	108	112	121	134	132	160	139	160	164
Linguistics	840	927	1,033	1,072	1,036	1,087	1,056	1,029	1,010
Political science	13,046	12,055	9,975	11,071	10,916	11,200	10,850	10,691	10,584
Sociology	2,078	1,922	1,780	1,781	1,679	1,778	1,797	1,823	1,878
Sociology/anthropology	495	590	475	452	408	368	313	309	352
Social sciences, n.e.c.	4,677	2,468	2,804	2,907	2,897	2,972	3,293	2,904	2,970
Total, health fields	12,990	13,139	13,596	14,013	13,933	13,612	14,245	14,521	15,524
Dentistry	225	235	250	273	249	248	252	259	210
Neurology	65	112	134	133	146	199	227	295	354
Nursing	4,753	4,824	5,152	5,289	4,777	4,601	4,533	4,834	5,324
Pharmaceutical sciences	793	851	722	694	774	727	664	740	781
Preventive medicine/community health ...	2,706	2,585	2,680	2,853	2,780	2,733	2,765	2,667	2,514
Speech pathology/audiology	1,209	1,269	1,216	1,447	1,274	1,205	1,244	1,373	1,330
Veterinary sciences	65	65	76	86	82	85	89	83	79
Clinical medicine, n.e.c.	573	555	495	532	534	584	613	588	600
Health related, n.e.c.	2,601	2,643	2,871	2,706	3,317	3,230	3,858	3,682	4,332

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-25. Science and engineering graduate students in all institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982 1/	1983	1984 2/	1985 2/	1986 2/	1987 2/	1988	1989	1990
Total, all surveyed fields	384,872	393,891	398,011	407,795	419,102	425,150	429,648	439,941	458,943
Total U.S. citizens	NA	320,275	322,612	327,652	331,546	332,744	331,938	337,653	352,179
Black, non-Hispanic	12,079	12,973	12,764	12,602	12,598	12,549	12,533	12,163	12,473
American Indian/Alaskan Native	1,080	1,106	1,086	1,079	1,003	954	1,114	1,073	1,270
Asian/Pacific Islander	9,118	10,348	11,173	13,034	13,951	15,770	16,561	17,235	19,195
Hispanic	8,695	10,369	10,106	10,203	10,249	10,575	11,047	11,386	12,569
White, non-Hispanic	250,874	261,352	260,748	261,429	266,539	268,467	270,439	273,593	285,997
Other or unknown	NA	24,127	26,835	29,505	27,306	24,429	19,244	20,203	17,675
Non-U.S. citizens	NA	73,616	75,399	80,143	87,556	92,406	97,710	102,288	106,764
Sciences, total	256,126	257,610	258,383	263,771	267,416	270,988	274,555	281,232	292,270
Total U.S. citizens	NA	214,676	213,916	215,725	215,349	215,457	215,893	219,731	227,938
Black, non-Hispanic	9,272	9,634	9,306	9,165	9,071	9,075	9,713	10,131	11,081
American Indian/Alaskan Native	742	738	643	619	620	664	784	734	891
Asian/Pacific Islander	5,417	5,974	6,374	7,222	7,697	8,754	9,289	9,745	10,699
Hispanic	6,678	7,463	7,193	7,140	7,071	7,108	7,401	7,762	8,547
White, non-Hispanic	172,702	176,909	174,289	174,063	175,249	175,991	178,030	180,165	186,869
Other or unknown	NA	13,958	16,111	17,516	15,641	13,865	10,676	11,194	9,851
Non-U.S. citizens	NA	42,934	44,467	48,046	52,067	55,531	58,662	61,501	64,332
Physical sciences	28,199	29,466	30,064	30,995	32,260	32,738	32,972	33,628	34,337
Total U.S. citizens	NA	21,805	22,017	22,054	22,232	22,110	21,860	21,820	21,826
Black, non-Hispanic	553	575	596	535	524	536	569	633	653
American Indian/Alaskan Native	50	45	77	35	48	52	44	44	63
Asian/Pacific Islander	697	748	891	937	912	1,047	1,213	1,141	1,217
Hispanic	496	563	535	599	629	591	624	680	641
White, non-Hispanic	17,689	18,657	18,595	18,338	18,565	18,098	18,292	18,328	18,570
Other or unknown	NA	1,217	1,323	1,610	1,554	1,792	1,110	994	682
Non-U.S. citizens	NA	7,661	8,047	8,941	10,028	10,628	11,112	11,808	12,511
Earth, atmospheric, and ocean sciences	15,174	15,544	15,612	15,545	15,163	14,522	14,032	13,848	14,159
Total U.S. citizens	NA	13,679	13,808	13,651	13,067	12,299	11,589	11,267	11,442
Black, non-Hispanic	103	111	108	122	98	95	108	96	125
American Indian/Alaskan Native	22	27	23	23	21	19	29	27	30
Asian/Pacific Islander	208	239	187	193	152	181	210	211	267
Hispanic	191	226	263	241	239	228	211	213	241
White, non-Hispanic	11,393	12,322	12,021	11,860	11,654	11,035	10,531	10,309	10,476
Other or unknown	NA	754	1,206	1,212	903	741	500	391	303
Non-U.S. citizens	NA	1,865	1,804	1,894	2,096	2,223	2,443	2,601	2,717
Mathematical sciences	17,199	17,397	17,478	17,613	17,990	18,573	19,141	19,382	19,884
Total U.S. citizens	NA	12,442	12,285	12,262	12,179	12,443	12,716	12,711	13,443
Black, non-Hispanic	357	404	394	410	450	442	422	463	512
American Indian/Alaskan Native	42	32	23	22	32	48	32	34	20
Asian/Pacific Islander	492	564	565	625	707	771	759	710	900
Hispanic	290	331	292	262	270	266	328	305	370
White, non-Hispanic	10,158	10,293	9,976	9,818	9,547	9,695	10,188	10,174	10,705
Other or unknown	NA	818	1,035	1,125	1,173	1,221	987	1,025	936
Non-U.S. citizens	NA	4,955	5,193	5,351	5,811	6,130	6,425	6,671	6,441
Computer sciences	19,812	23,616	25,810	29,844	31,425	32,137	32,787	32,846	34,507
Total U.S. citizens	NA	18,068	19,451	22,386	23,419	23,409	23,717	23,122	23,778
Black, non-Hispanic	528	564	561	609	686	750	825	838	984
American Indian/Alaskan Native	31	22	48	56	20	27	40	41	42
Asian/Pacific Islander	890	1,099	1,251	1,853	2,078	2,463	2,690	2,748	2,864
Hispanic	249	282	292	481	445	544	517	546	566
White, non-Hispanic	11,574	13,482	13,983	15,569	16,498	17,149	17,660	16,665	17,436
Other or unknown	NA	619	3,316	3,818	3,692	2,476	1,985	2,284	1,886
Non-U.S. citizens	NA	5,548	6,359	7,458	8,006	8,728	9,070	9,724	10,729
Agricultural sciences	12,314	12,290	12,062	11,380	11,329	11,004	11,000	11,038	11,183
Total U.S. citizens	NA	9,598	9,426	8,784	8,590	8,134	8,131	8,206	8,196
Black, non-Hispanic	145	133	135	147	126	132	143	151	178
American Indian/Alaskan Native	25	32	25	20	24	28	31	24	20
Asian/Pacific Islander	138	133	140	136	129	160	210	243	271
Hispanic	210	223	250	320	299	216	272	291	293
White, non-Hispanic	8,504	8,667	8,612	7,747	7,702	7,368	7,246	7,261	7,163
Other or unknown	NA	410	264	414	310	230	229	236	271
Non-U.S. citizens	NA	2,692	2,636	2,596	2,739	2,870	2,869	2,832	2,987

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-25. Science and engineering graduate students in all institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982 1/	1983	1984 2/	1985 2/	1986 2/	1987 2/	1988	1989	1990
Biological sciences	46,310	46,055	46,171	46,538	47,216	47,452	48,316	49,617	50,921
Total U.S. citizens	NA	39,969	39,782	39,582	39,328	38,651	38,481	38,672	39,195
Black, non-Hispanic	1,128	1,163	1,160	1,185	1,112	1,062	1,161	1,221	1,263
American Indian/Alaskan Native	92	121	83	89	106	90	108	86	137
Asian/Pacific Islander	1,131	1,276	1,320	1,466	1,587	1,686	1,825	2,020	2,314
Hispanic	810	915	853	943	966	1,046	1,133	1,219	1,237
White, non-Hispanic	34,843	34,998	35,113	34,304	34,065	33,164	33,208	32,846	33,180
Other or unknown	NA	1,496	1,253	1,595	1,492	1,603	1,046	1,280	1,064
Non-U.S. citizens	NA	6,086	6,389	6,956	7,888	8,801	9,835	10,945	11,726
Psychology	40,082	41,039	41,074	41,308	41,551	42,888	44,389	46,304	48,659
Total U.S. citizens	NA	39,605	39,685	39,811	40,047	41,346	42,726	44,652	46,819
Black, non-Hispanic	1,643	1,911	1,933	1,815	1,815	1,825	1,981	2,094	2,289
American Indian/Alaskan Native	138	136	136	135	153	179	181	236	236
Asian/Pacific Islander	441	532	545	559	619	728	752	821	964
Hispanic	1,471	1,814	1,903	1,613	1,709	1,669	1,738	1,756	2,159
White, non-Hispanic	30,306	32,665	32,143	32,741	33,285	34,872	36,120	37,815	39,511
Other or unknown	NA	3,267	3,045	3,947	3,484	3,099	1,964	1,985	1,660
Non-U.S. citizens	NA	1,434	1,389	1,497	1,504	1,542	1,663	1,652	1,840
Social sciences	77,036	72,203	70,112	70,548	70,482	71,674	71,918	74,569	78,620
Total U.S. citizens	NA	59,510	57,462	57,195	56,487	57,065	56,673	59,301	63,239
Black, non-Hispanic	4,815	4,773	4,419	4,342	4,260	4,233	4,502	4,635	5,077
American Indian/Alaskan Native	342	323	248	238	234	253	313	297	343
Asian/Pacific Islander	1,420	1,383	1,475	1,453	1,513	1,718	1,630	1,851	1,902
Hispanic	2,961	3,109	2,805	2,681	2,514	2,548	2,588	2,752	3,040
White, non-Hispanic	48,235	45,825	43,846	43,686	43,933	44,610	44,785	46,767	49,828
Other or unknown	NA	4,097	4,669	4,795	4,033	3,703	2,855	2,999	3,049
Non-U.S. citizens	NA	12,693	12,650	13,353	13,995	14,609	15,245	15,268	15,381
Engineering, total	84,581	91,937	93,644	96,951	103,071	104,644	103,719	104,815	109,299
Total U.S. citizens	NA	64,318	65,638	68,016	70,930	71,149	68,350	67,950	71,172
Black, non-Hispanic	1,144	1,411	1,475	1,422	1,509	1,435	1,533	1,648	1,810
American Indian/Alaskan Native	171	181	192	122	132	124	144	125	157
Asian/Pacific Islander	2,747	3,419	3,834	4,827	5,186	5,885	5,967	6,033	6,775
Hispanic	1,099	1,465	1,522	1,497	1,642	1,734	1,731	1,725	1,955
White, non-Hispanic	43,368	49,101	49,829	50,835	53,406	54,179	52,825	51,847	54,341
Other or unknown	NA	8,741	8,786	9,313	9,055	7,792	6,150	6,572	6,134
Non-U.S. citizens	NA	27,619	28,006	28,935	32,141	33,495	35,369	36,865	38,127
Chemical engineering	7,189	7,563	7,373	7,150	7,012	7,111	6,618	6,460	6,734
Total U.S. citizens	NA	5,048	5,013	4,729	4,640	4,634	4,082	3,675	3,816
Black, non-Hispanic	85	88	73	71	85	87	84	79	84
American Indian/Alaskan Native	14	11	9	8	5	26	24	10	5
Asian/Pacific Islander	312	311	334	277	287	357	313	248	343
Hispanic	101	89	141	107	116	117	135	111	149
White, non-Hispanic	3,850	4,256	4,110	3,865	3,886	3,827	3,382	3,097	3,163
Other or unknown	NA	293	346	401	261	220	144	130	92
Non-U.S. citizens	NA	2,515	2,360	2,421	2,372	2,477	2,536	2,785	2,918
Civil engineering	14,510	15,299	15,569	15,248	15,357	14,924	15,022	15,128	15,891
Total U.S. citizens	NA	9,964	10,180	9,804	9,555	9,256	9,151	9,228	9,870
Black, non-Hispanic	139	188	198	196	184	172	199	251	237
American Indian/Alaskan Native	22	23	19	16	29	9	22	23	38
Asian/Pacific Islander	410	457	443	452	480	606	617	617	779
Hispanic	219	292	306	268	282	269	277	289	322
White, non-Hispanic	7,095	7,792	7,846	7,569	7,445	7,181	7,481	7,448	7,851
Other or unknown	NA	1,212	1,368	1,303	1,135	1,019	555	600	643
Non-U.S. citizens	NA	5,335	5,389	5,444	5,802	5,668	5,871	5,900	6,021
Electrical engineering	22,017	25,213	26,306	28,128	30,008	31,339	31,960	33,161	33,887
Total U.S. citizens	NA	17,631	18,763	19,722	20,480	21,248	21,636	22,057	22,342
Black, non-Hispanic	303	367	415	456	410	418	509	559	610
American Indian/Alaskan Native	59	48	46	30	43	18	39	37	49
Asian/Pacific Islander	794	1,171	1,480	1,966	2,084	2,440	2,584	2,700	3,009
Hispanic	317	394	423	443	473	519	524	554	578
White, non-Hispanic	10,597	12,199	12,694	13,572	13,896	14,783	15,267	15,679	15,728
Other or unknown	NA	3,452	3,705	3,255	3,574	3,070	2,713	2,528	2,368
Non-U.S. citizens	NA	7,582	7,543	8,406	9,528	10,091	10,324	11,104	11,545

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-25. Science and engineering graduate students in all institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982 1/	1983	1984 2/	1985 2/	1986 2/	1987 2/	1988	1989	1990
Industrial engineering	9,870	9,621	9,820	11,078	12,120	12,690	11,849	11,559	11,816
Total U.S. citizens	NA	7,882	7,956	9,065	9,887	10,002	9,101	8,569	8,672
Black, non-Hispanic	250	321	322	256	299	288	295	282	308
American Indian/Alaskan Native	19	17	11	10	10	25	15	17	24
Asian/Pacific Islander	288	218	215	337	410	453	476	460	459
Hispanic	175	224	291	255	278	282	279	247	271
White, non-Hispanic	5,948	6,340	6,198	7,268	7,676	8,260	7,478	6,875	6,773
Other or unknown	NA	753	883	938	1,214	694	558	688	837
Non-U.S. citizens	NA	1,739	1,864	2,013	2,233	2,688	2,748	2,990	3,144
Mechanical engineering	11,467	12,911	13,855	14,157	15,740	16,304	16,233	16,216	16,879
Total U.S. citizens	NA	8,313	9,008	9,370	10,352	10,816	10,196	10,410	10,822
Black, non-Hispanic	100	135	170	161	161	187	200	200	246
American Indian/Alaskan Native	14	19	30	25	15	23	12	13	15
Asian/Pacific Islander	336	425	494	794	811	883	777	803	803
Hispanic	113	125	125	181	243	282	217	214	278
White, non-Hispanic	5,333	6,788	7,167	7,159	7,887	7,945	7,898	7,594	8,291
Other or unknown	NA	821	1,022	1,050	1,235	1,496	1,092	1,586	1,189
Non-U.S. citizens	NA	4,598	4,847	4,787	5,388	5,488	6,037	5,806	6,057
Other engineering	19,528	21,330	20,721	21,190	22,834	22,276	22,037	22,291	24,092
Total U.S. citizens	NA	15,480	14,718	15,326	16,016	15,193	14,184	14,011	15,650
Black, non-Hispanic	267	312	297	282	370	283	246	277	325
American Indian/Alaskan Native	43	63	61	32	30	23	32	25	26
Asian/Pacific Islander	607	837	848	1,001	1,114	1,146	1,200	1,205	1,382
Hispanic	174	341	236	243	250	265	299	310	357
White, non-Hispanic	10,545	11,717	11,814	11,402	12,616	12,183	11,519	11,154	12,535
Other or unknown	NA	2,210	1,462	2,366	1,636	1,293	1,088	1,040	1,025
Non-U.S. citizens	NA	5,850	6,003	5,864	6,818	7,083	7,853	8,280	8,442
Total, health fields	44,165	44,344	45,984	47,073	48,615	49,518	51,374	53,894	57,374
Total U.S. citizens	NA	41,281	43,058	43,911	45,267	46,138	47,695	49,972	53,069
Black, non-Hispanic	1,663	1,928	1,983	2,015	2,018	2,039	2,287	2,384	2,582
American Indian/Alaskan Native	167	187	151	138	151	166	186	214	222
Asian/Pacific Islander	954	955	965	985	1,068	1,131	1,305	1,457	1,721
Hispanic	918	1,441	1,391	1,566	1,536	1,733	1,915	1,899	2,067
White, non-Hispanic	34,804	35,342	36,630	36,531	37,884	38,297	39,584	41,581	44,787
Other or unknown	NA	1,428	1,938	2,676	2,610	2,772	2,418	2,437	1,690
Non-U.S. citizens	NA	3,063	2,926	3,162	3,348	3,380	3,679	3,922	4,305

1/ Citizenship data are not available prior to 1983.

2/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-26. Full-time science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	246,046	253,578	255,430	259,320	268,185	273,090	277,859	285,989	295,836
Total, science/engineering fields	222,770	230,570	232,182	235,593	244,424	248,652	252,643	259,411	267,621
Engineering, total	50,233	54,321	55,528	56,283	60,708	62,167	63,400	64,716	66,547
Aerospace	1,522	1,840	1,854	1,994	2,154	2,372	2,533	2,772	3,010
Agricultural	739	766	773	767	881	924	879	851	793
Biomedical	931	1,031	1,121	1,129	1,294	1,392	1,455	1,611	1,798
Chemical	5,608	5,869	5,734	5,546	5,594	5,674	5,359	5,282	5,453
Civil	9,762	10,185	10,455	10,092	10,352	9,857	10,157	10,183	10,445
Electrical	11,533	13,203	13,857	14,752	16,322	17,040	17,653	18,396	18,710
Engineering science	1,277	1,356	1,272	1,264	1,445	1,386	1,434	1,259	1,332
Industrial	3,831	3,334	3,438	3,530	3,886	4,255	4,399	4,760	4,966
Mechanical	7,267	8,330	8,698	8,875	9,801	10,175	10,438	10,426	10,843
Metallurgical/materials	2,478	2,704	2,872	3,088	3,347	3,397	3,421	3,685	3,848
Mining	373	428	424	391	442	435	415	338	334
Nuclear	1,042	1,052	1,018	1,030	1,059	1,044	1,105	1,112	1,080
Petroleum	476	620	614	577	572	644	599	506	484
Engineering, n.e.c.	3,394	3,603	3,398	3,248	3,559	3,572	3,553	3,535	3,451
Sciences, total	172,537	176,249	176,654	179,310	183,716	186,485	189,243	194,695	201,074
Physical sciences	24,040	25,205	25,852	26,669	27,764	28,414	28,574	29,193	29,573
Astronomy	590	585	596	635	654	681	705	762	790
Chemistry	14,287	15,023	15,123	15,580	15,997	16,235	16,088	16,257	16,390
Physics	9,072	9,495	9,964	10,287	10,957	11,304	11,638	12,040	12,222
Physical sciences, n.e.c.	91	102	169	167	156	194	143	134	171
Earth, atmospheric, and ocean sciences	11,436	12,049	11,819	11,439	11,323	10,543	10,296	10,138	10,295
Atmospheric sciences	779	785	776	872	855	824	829	810	828
Geosciences	7,521	8,203	8,093	7,703	7,384	6,666	6,314	5,986	5,808
Oceanography	1,593	1,612	1,599	1,562	1,694	1,651	1,629	1,799	1,813
Earth, atmos., and ocean sci., n.e.c.	1,543	1,449	1,351	1,302	1,390	1,402	1,524	1,543	1,806
Mathematical sciences	10,823	10,964	11,319	11,833	12,398	13,049	13,523	13,705	13,870
Computer sciences	9,171	10,687	11,587	14,101	15,310	15,572	15,596	16,008	16,872
Agricultural sciences	9,891	9,836	9,750	9,097	9,229	8,983	8,986	8,926	8,961
Biological sciences	36,989	37,112	37,480	37,362	38,178	38,789	39,772	40,984	41,685
Anatomy	937	921	936	891	893	929	973	999	922
Biochemistry	3,850	4,007	4,263	4,488	4,664	4,639	4,768	4,885	4,936
Biology	9,044	9,010	8,971	8,531	8,577	8,685	8,883	9,333	9,340
Biometry/epidemiology	919	877	751	996	1,055	1,197	1,244	1,248	1,264
Biophysics	423	437	419	381	449	468	544	610	605
Botany	3,169	3,043	2,993	2,836	2,883	2,712	2,685	2,588	2,471
Cell biology	1,110	1,138	1,209	1,406	1,655	1,886	2,023	2,177	2,515
Ecology	910	844	877	876	857	796	836	879	890
Entomology/parasitology	1,340	1,305	1,264	1,138	1,107	1,062	1,061	1,009	1,015
Genetics	924	964	986	1,057	1,171	1,208	1,187	1,283	1,317
Microbiology	3,517	3,704	3,826	3,879	4,019	4,019	4,309	4,319	4,365
Nutrition	3,120	3,988	3,018	3,040	3,055	3,014	2,876	2,874	2,920
Pathology	1,021	1,068	1,083	1,036	1,070	1,135	1,126	1,160	1,144
Pharmacology	1,940	2,004	1,998	2,064	2,036	2,004	2,070	2,221	2,294
Physiology	1,805	1,766	1,969	1,986	2,005	1,996	2,008	2,057	2,116
Zoology	2,136	2,052	1,863	1,718	1,720	1,787	1,719	1,774	1,683
Biosciences, n.e.c.	824	984	1,054	1,039	1,110	1,252	1,460	1,568	1,888
Psychology	25,812	26,701	26,108	25,769	26,521	27,497	28,480	30,172	30,992
Social sciences	44,375	43,695	42,739	43,040	42,993	43,638	44,016	45,569	48,826
Agricultural economics	1,978	2,047	2,027	1,990	1,964	1,857	1,909	1,912	1,961
Anthropology	4,105	3,940	3,968	3,906	4,051	4,098	4,266	4,411	4,741
Economics (except agricultural)	9,479	9,215	8,824	8,975	9,003	9,029	9,072	9,147	9,346
Geography	2,139	2,202	2,175	2,124	2,108	2,290	2,215	2,358	2,429
History and philosophy of science	223	229	243	227	237	267	266	303	340
Linguistics	2,157	2,375	2,319	2,337	2,358	2,449	2,520	2,468	2,586
Political science	13,693	13,443	12,798	13,171	13,410	13,007	13,372	14,064	15,472
Sociology	4,875	4,794	4,745	4,644	4,595	5,026	5,082	5,269	5,679
Sociology/anthropology	657	671	606	565	584	560	566	633	782
Social sciences, n.e.c.	5,069	4,779	5,034	5,101	4,683	5,055	4,748	5,004	5,490
Total, health fields	23,276	23,008	23,248	23,727	23,761	24,438	25,216	26,578	28,215
Dentistry	727	701	768	745	825	909	930	859	840
Neurology	202	258	313	335	373	475	590	685	788
Nursing	6,612	6,204	6,113	6,045	5,878	5,924	6,024	5,987	6,126
Pharmaceutical sciences	1,703	1,697	1,699	1,718	1,763	1,747	1,829	2,036	2,137
Preventive medicine/community health	4,056	3,961	3,955	4,137	4,079	4,162	4,217	4,206	4,500
Speech pathology/audiology	5,353	5,280	5,292	5,476	5,395	5,089	5,315	5,722	5,840
Veterinary sciences	378	363	425	515	506	592	606	668	709
Clinical medicine, n.e.c.	1,076	1,089	1,039	1,160	1,147	1,210	1,270	1,366	1,431
Health related, n.e.c.	3,169	3,455	3,644	3,596	3,795	4,330	4,435	5,049	5,844

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-27. Full-time science and engineering graduate students in all institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all institutions	246,046	253,578	255,430	259,320	268,185	273,090	277,859	285,989	295,836
New England	19,175	19,589	19,319	19,810	20,664	20,600	21,720	21,883	22,824
Connecticut	3,653	3,726	3,429	3,651	3,667	3,811	3,990	4,004	4,188
Maine	361	412	462	405	421	445	504	505	524
Massachusetts	12,683	12,873	12,828	13,201	13,896	13,545	14,426	14,445	15,048
New Hampshire	674	667	693	698	743	763	829	800	898
Rhode Island	1,384	1,445	1,478	1,434	1,524	1,625	1,501	1,622	1,623
Vermont	420	466	429	421	413	411	470	507	543
Middle Atlantic	36,736	37,300	37,005	37,508	39,277	39,996	42,222	43,382	43,972
New Jersey	4,175	4,114	4,587	4,797	5,156	5,621	5,595	5,794	5,549
New York	21,973	22,153	21,861	21,986	23,247	23,354	24,690	24,829	25,434
Pennsylvania	10,588	11,033	10,557	10,725	10,874	11,021	11,937	12,759	12,989
East North Central	45,833	47,422	45,398	46,469	48,228	50,453	53,275	54,803	56,456
Illinois	12,573	13,327	12,925	13,385	14,224	14,900	15,753	16,022	16,330
Indiana	5,903	6,002	5,948	5,881	6,146	6,500	6,890	6,370	6,596
Michigan	8,981	9,274	9,356	9,440	9,834	9,985	10,098	10,699	10,984
Ohio	11,791	12,358	11,117	11,803	12,030	12,055	13,882	13,833	14,343
Wisconsin	6,585	6,461	6,052	5,960	5,994	6,113	6,652	6,879	7,203
West North Central	18,205	18,928	17,683	17,231	17,624	17,721	19,164	19,451	19,647
Iowa	3,606	3,851	3,658	3,777	3,853	3,860	4,108	4,187	4,380
Kansas	3,604	3,783	3,126	2,405	2,445	2,664	2,711	2,907	2,968
Minnesota	4,487	4,571	4,433	4,600	4,661	4,560	5,474	5,556	5,192
Missouri	3,805	3,889	3,677	3,690	3,920	4,007	4,007	3,964	4,149
Nebraska	1,440	1,472	1,472	1,409	1,347	1,460	1,475	1,436	1,516
North Dakota	764	779	726	768	811	787	803	782	755
South Dakota	499	583	591	582	587	583	586	619	687
South Atlantic	32,733	33,017	33,021	33,907	35,553	35,987	38,462	40,403	42,153
Delaware	734	776	699	762	800	857	844	901	1,025
District of Columbia	3,321	3,050	3,088	3,668	3,484	3,505	3,731	3,445	3,668
Florida	6,150	5,934	6,027	6,364	6,450	6,285	6,963	7,752	8,470
Georgia	4,537	4,580	4,805	4,489	4,786	4,904	5,196	5,330	5,855
Maryland	3,854	4,084	3,889	4,003	4,329	4,391	4,856	5,242	5,712
North Carolina	6,113	6,259	6,130	6,091	6,513	6,538	7,159	7,536	7,974
South Carolina	1,884	2,111	2,062	2,125	2,307	2,301	2,281	2,490	2,578
Virginia	4,847	4,955	5,118	5,451	5,749	6,215	6,408	6,603	6,139
West Virginia	1,293	1,268	1,203	1,154	1,135	991	1,024	1,104	1,232
East South Central	9,326	9,822	9,776	9,843	10,252	10,475	11,562	12,188	12,134
Alabama	2,452	2,573	2,704	2,942	3,213	3,367	3,617	3,919	3,711
Kentucky	2,068	2,210	1,966	1,884	1,862	1,923	2,388	2,462	2,450
Mississippi	1,550	1,740	1,800	1,716	1,890	1,871	1,955	2,005	1,131
Tennessee	3,256	3,299	3,306	3,301	3,287	3,314	3,602	3,802	3,842
West South Central	22,356	23,946	23,624	23,273	23,844	23,705	24,281	25,526	26,823
Arkansas	1,111	1,088	825	783	786	715	902	1,112	1,281
Louisiana	3,177	3,321	3,605	3,643	3,594	3,657	3,715	3,736	3,927
Oklahoma	2,738	2,938	2,935	2,566	2,650	2,541	2,374	2,335	2,634
Texas	15,330	16,599	16,259	16,281	16,814	16,792	17,290	18,343	18,981
Mountain	16,460	17,092	16,489	16,730	17,390	18,025	18,178	18,112	19,038
Arizona	3,932	4,280	4,328	4,568	4,884	4,866	5,280	5,223	5,199
Colorado	5,060	5,003	4,800	5,001	5,257	5,696	5,460	5,249	5,952
Idaho	655	653	599	561	583	661	657	719	800
Montana	952	1,014	995	916	859	832	899	894	920
Nevada	448	557	432	428	410	493	533	691	599
New Mexico	1,801	1,913	1,790	1,874	1,939	2,099	1,990	1,888	2,057
Utah	2,911	2,878	2,889	2,860	2,984	2,820	2,820	2,818	2,870
Wyoming	701	794	656	522	474	558	539	630	641
Pacific	43,852	44,951	41,979	43,224	43,954	44,831	47,462	48,651	50,970
Alaska	321	374	345	212	302	223	267	390	378
California	34,701	35,671	33,204	34,363	34,829	35,933	37,826	38,912	40,779
Hawaii	1,548	1,502	1,460	1,467	1,570	1,527	1,522	1,539	1,655
Oregon	2,596	2,702	2,633	2,705	2,864	2,830	2,934	2,898	3,057
Washington	4,686	4,702	4,337	4,477	4,389	4,318	4,913	4,912	5,101
Outlying areas	1,370	1,511	1,706	1,777	1,733	1,513	1,533	1,590	1,819
State unknown 2/	0	0	9,430	9,548	9,666	9,784	0	0	0

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

2/ These numbers represent the total of all nonsampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-28. Male full-time science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	163,990	169,074	169,937	172,113	177,801	180,614	181,181	184,434	188,420
Total, science/engineering fields	156,926	162,222	163,096	165,162	170,881	173,038	173,649	176,400	180,000
Engineering, total	44,826	48,567	49,343	49,868	53,567	54,807	55,680	56,470	57,726
Aerospace	1,449	1,760	1,768	1,868	2,006	2,205	2,365	2,592	2,811
Agricultural	689	708	706	709	820	839	1,080	1,221	1,342
Biomedical	751	804	874	884	996	1,046	1,080	1,221	1,342
Chemical	4,936	5,100	5,002	4,792	4,806	4,800	4,567	4,486	4,257
Civil	8,369	8,748	8,878	8,471	8,710	8,388	8,521	8,465	8,274
Electrical	10,715	12,248	12,711	13,553	14,851	15,498	15,979	16,582	16,731
Engineering science	1,154	1,221	1,127	1,146	1,135	1,257	1,303	1,120	1,146
Industrial	3,059	2,714	2,806	2,879	2,956	3,295	3,637	3,834	4,022
Mechanical	6,834	7,847	8,137	8,179	8,173	8,450	8,602	8,570	8,986
Metalurgical/materials	2,170	2,380	2,518	2,552	2,836	2,845	2,858	3,060	3,194
Mining	338	387	383	363	407	400	373	298	287
Nuclear	969	978	948	939	960	940	1,004	993	952
Petroleum	443	557	562	530	534	601	568	486	460
Engineering, n.e.c.	2,950	3,115	2,923	2,766	3,040	3,043	3,016	2,981	2,954
Sciences, total	112,100	113,655	113,753	115,294	117,314	118,231	117,969	119,930	122,274
Physical sciences	19,641	20,371	20,755	21,241	22,023	22,384	22,208	22,535	22,728
Astronomy	496	500	501	531	538	566	569	626	629
Chemistry	10,937	11,344	11,299	11,592	11,796	11,849	11,433	11,466	11,438
Physics	8,144	8,458	8,857	9,002	9,594	9,861	10,119	10,425	10,564
Physical sciences, n.e.c.	64	69	98	116	95	108	87	78	97
Earth, atmospheric, and ocean sciences	8,608	9,038	8,929	8,574	8,390	7,826	7,506	7,347	7,345
Atmospheric sciences	663	667	655	733	694	676	682	648	653
Geosciences	5,733	6,249	6,168	5,842	5,610	5,074	4,781	4,550	4,383
Oceanography	1,149	1,162	1,150	1,114	1,169	1,159	1,104	1,220	1,242
Earth, atmos., and ocean sci., n.e.c.	1,063	960	956	885	917	917	939	929	1,067
Mathematical sciences	8,029	8,044	8,332	8,615	8,998	9,491	9,808	9,769	9,827
Computer sciences	6,860	8,038	8,825	11,051	11,975	12,245	12,197	12,706	13,372
Agricultural sciences	7,431	7,348	7,216	6,734	6,853	6,631	6,539	6,450	6,352
Biological sciences	22,340	22,211	22,253	22,029	22,226	22,434	22,773	23,132	23,241
Anatomy	580	558	555	509	514	533	549	558	512
Biochemistry	2,476	2,535	2,675	2,826	2,867	2,831	2,861	2,941	2,906
Biology	5,520	5,418	5,382	5,077	5,054	5,155	5,191	5,362	5,342
Biometry/epidemiology	453	424	453	458	486	464	575	558	601
Biophysics	316	328	314	287	337	355	406	464	452
Botany	2,027	1,951	1,900	1,796	1,854	1,673	1,666	1,590	1,503
Cell biology	704	748	756	895	1,009	1,155	1,201	1,259	1,414
Ecology	597	557	586	561	544	502	523	536	561
Entomology/parasitology	1,021	969	942	853	808	776	752	693	709
Genetics	441	487	517	567	618	620	610	639	641
Microbiology	2,011	2,124	2,175	2,224	2,186	2,247	2,401	2,348	2,312
Nutrition	1,153	1,060	1,072	1,119	1,107	1,089	991	991	1,001
Pathology	642	668	670	634	644	681	689	711	675
Pharmacology	1,266	1,290	1,249	1,277	1,242	1,182	1,232	1,265	1,289
Physiology	1,202	1,152	1,271	1,245	1,247	1,253	1,246	1,234	1,250
Zoology	1,438	1,370	1,213	1,112	1,088	1,116	1,044	1,090	1,008
Biosciences, n.e.c.	493	572	623	589	621	702	836	893	1,085
Psychology	11,281	11,405	10,756	10,356	10,332	10,484	10,315	10,669	10,757
Social sciences	27,910	27,200	26,687	26,694	26,517	26,736	26,623	27,322	28,652
Agricultural economics	1,581	1,621	1,610	1,554	1,537	1,429	1,449	1,419	1,445
Anthropology	1,903	1,728	1,803	1,786	1,792	1,828	1,854	1,880	2,016
Economics (except agricultural)	7,229	7,072	6,807	6,903	6,921	6,906	6,869	6,819	6,873
Geography	1,502	1,491	1,496	1,433	1,452	1,546	1,485	1,567	1,617
History and philosophy of science	149	145	166	155	184	169	169	191	220
Linguistics	946	1,025	972	981	1,016	1,033	1,061	1,076	1,142
Political science	9,112	8,805	8,543	8,565	8,628	8,470	8,471	8,747	9,368
Sociology	2,331	2,330	2,278	2,266	2,141	2,350	2,388	2,508	2,633
Sociology/anthropology	328	317	305	271	278	269	269	297	327
Social sciences, n.e.c.	2,829	2,666	2,707	2,778	2,606	2,712	2,608	2,818	3,014
Total, health fields	7,064	6,852	6,841	6,951	6,920	7,576	7,532	8,034	8,420
Dentistry	588	552	509	584	643	671	685	624	597
Neurology	138	186	205	206	232	296	356	409	446
Nursing	374	358	357	310	328	522	557	445	405
Pharmaceutical sciences	1,192	1,163	1,130	1,146	1,136	1,089	1,110	1,232	1,307
Preventive medicine/community health	1,841	1,791	1,674	1,737	1,818	1,964	1,843	1,691	1,861
Speech pathology/audiology	790	727	684	753	608	510	587	589	544
Veterinary sciences	239	226	265	330	327	379	379	400	415
Clinical medicine, n.e.c.	644	616	564	593	586	657	702	746	804
Health related, n.e.c.	1,258	1,233	1,353	1,292	1,242	1,493	1,513	1,898	2,041

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-29. Male full-time science and engineering graduate students in all institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all institutions	163,990	169,074	169,937	172,113	177,801	180,614	181,181	184,434	188,420
New England	12,841	13,224	12,941	13,145	13,639	13,651	14,151	14,195	14,514
Connecticut	2,260	2,330	2,151	2,203	2,189	2,298	2,362	2,362	2,407
Maine	261	286	315	269	274	298	332	335	344
Massachusetts	8,714	8,908	8,767	9,000	9,421	9,252	9,633	9,603	9,796
New Hampshire	464	457	465	458	487	491	552	536	575
Rhode Island	919	977	984	970	1,061	1,099	1,027	1,074	1,088
Vermont	243	266	259	245	207	213	255	285	304
Middle Atlantic	24,097	24,353	24,476	24,965	26,012	26,458	27,217	28,024	28,007
New Jersey	2,925	2,867	3,266	3,448	3,662	4,092	4,059	4,261	3,862
New York	13,815	13,960	13,946	14,151	14,943	14,905	15,356	15,427	15,760
Pennsylvania	7,357	7,526	7,264	7,366	7,407	7,461	7,802	8,356	8,385
East North Central	30,923	32,053	31,224	31,875	32,881	34,253	35,005	35,775	36,542
Illinois	8,336	8,914	8,874	8,982	9,443	9,866	10,226	10,209	10,515
Indiana	4,124	4,203	4,145	4,240	4,420	4,654	4,766	5,066	5,040
Michigan	6,272	6,489	6,511	6,497	6,743	6,989	6,895	7,167	7,336
Ohio	7,762	8,120	7,558	7,985	8,144	8,625	8,773	8,804	9,016
Wisconsin	4,429	4,327	4,136	4,171	4,131	4,119	4,345	4,529	4,635
West North Central	12,475	12,984	12,068	11,884	12,172	12,050	12,925	12,923	12,935
Iowa	2,589	2,780	2,599	2,685	2,713	2,702	2,861	2,945	3,020
Kansas	2,480	2,480	2,032	1,538	1,588	1,590	1,797	1,866	1,851
Minnesota	2,935	2,949	2,867	3,118	3,220	3,050	3,529	3,465	3,291
Missouri	2,644	2,696	2,571	2,579	2,739	2,740	2,707	2,629	2,693
Nebraska	1,033	1,035	1,037	980	936	996	1,064	1,024	1,068
North Dakota	566	597	528	546	575	554	549	545	534
South Dakota	379	447	434	438	401	418	418	449	478
South Atlantic	21,073	21,343	21,472	21,762	23,061	23,226	24,389	24,904	25,827
Delaware	492	538	486	527	554	596	603	639	722
District of Columbia	1,995	1,888	1,979	2,131	2,089	2,124	2,135	1,869	1,869
Florida	2,207	2,288	2,051	2,188	2,287	2,446	2,471	2,759	2,724
Georgia	1,114	1,204	1,284	1,095	1,309	1,423	1,553	1,536	1,697
Maryland	231	339	230	350	322	2,602	2,862	3,122	3,224
North Carolina	737	891	858	1,134	1,134	4,062	4,448	4,535	4,634
South Carolina	275	397	1,411	1,409	1,652	1,681	1,566	1,664	1,739
Virginia	1,123	1,214	3,350	3,535	3,752	4,084	4,115	4,152	4,447
West Virginia	899	884	823	754	789	608	636	673	771
East South Central	6,019	6,386	6,537	6,398	6,807	6,939	7,597	7,800	7,728
Alabama	1,569	1,689	1,791	1,918	2,137	2,220	2,408	2,535	2,344
Kentucky	1,394	1,460	1,304	1,265	1,259	1,576	1,510	1,549	1,567
Mississippi	1,023	1,187	1,262	1,178	1,316	1,593	1,357	1,341	1,470
Tennessee	2,033	2,050	2,180	2,037	2,095	2,150	2,322	2,375	2,347
West South Central	15,249	16,496	16,384	16,197	16,690	16,777	16,430	16,934	17,692
Arkansas	768	749	605	560	582	513	583	616	667
Louisiana	2,161	2,273	2,528	2,568	2,521	2,582	2,534	2,524	2,649
Oklahoma	2,018	2,183	2,119	1,903	1,997	1,826	1,624	1,592	1,808
Texas	10,302	11,291	11,132	11,166	11,590	11,856	11,689	12,202	12,568
Mountain	11,572	12,077	11,521	11,688	12,154	12,489	12,630	12,502	12,689
Arizona	2,825	3,040	3,030	3,168	3,449	3,467	3,711	3,635	3,514
Colorado	3,329	3,289	3,095	3,159	3,388	3,547	3,504	3,429	3,671
Idaho	502	495	450	415	435	481	487	517	526
Montana	663	705	673	623	580	589	658	637	633
Nevada	294	353	319	336	291	358	364	455	417
New Mexico	1,235	1,404	1,288	1,333	1,402	1,520	1,387	1,318	1,444
Utah	2,181	2,148	2,159	2,166	2,237	2,098	2,115	2,068	2,040
Wyoming	543	643	507	488	372	429	404	443	444
Pacific	29,129	29,611	28,017	28,809	28,992	29,397	30,266	30,771	31,806
Alaska	235	257	252	154	227	167	187	260	230
California	23,052	23,398	21,980	22,833	22,793	23,385	23,944	24,438	25,349
Hawaii	922	894	889	865	969	952	910	934	989
Oregon	1,876	1,947	1,923	1,965	2,130	2,105	2,153	2,090	2,181
Washington	3,044	3,115	2,973	2,992	2,873	2,788	3,072	3,049	3,057
Outlying areas	612	547	739	771	709	628	571	606	680
State unknown 2/	0	0	4,558	4,619	4,684	4,746	0	0	0

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

2/ These numbers represent the total of all nonsampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-30. Female full-time science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	82,056	84,504	85,493	87,207	90,384	92,476	96,678	101,555	107,416
Total, science/engineering fields	65,844	68,348	69,086	70,431	73,543	75,614	78,994	83,011	87,621
Engineering, total	5,407	5,754	6,185	6,415	7,141	7,360	7,720	8,246	8,821
Aerospace	73	80	86	126	148	167	168	180	199
Agricultural	50	58	67	58	61	85	72	69	83
Biomedical	180	227	247	245	298	346	375	390	456
Chemical	672	769	732	754	788	874	792	796	896
Civil	1,393	1,437	1,577	1,621	1,642	1,469	1,636	1,718	1,871
Electrical	818	955	1,146	1,199	1,471	1,542	1,674	1,814	1,979
Engineering science	123	135	145	118	152	129	131	139	186
Industrial	772	620	632	651	751	760	762	926	944
Mechanical	433	483	561	559	628	725	836	856	857
Metallurgical/materials	308	324	354	436	511	552	563	625	654
Mining	35	41	41	28	35	35	42	40	47
Nuclear	73	74	70	91	99	104	101	119	128
Petroleum	33	63	52	47	38	43	31	20	24
Engineering, n.e.c.	444	488	475	482	519	529	537	554	497
Sciences, total	60,437	62,594	62,901	64,016	66,402	68,254	71,274	74,765	78,800
Physical sciences	4,399	4,834	5,097	5,428	5,741	6,030	6,366	6,658	6,845
Astronomy	94	85	95	104	116	115	136	136	161
Chemistry	3,350	3,679	3,824	3,988	4,201	4,386	4,655	4,851	4,952
Physics	928	1,037	1,107	1,285	1,363	1,443	1,519	1,615	1,658
Physical sciences, n.e.c.	27	33	71	51	61	86	56	56	74
Earth, atmospheric, and ocean sciences	2,828	3,011	2,890	2,865	2,933	2,717	2,790	2,791	2,950
Atmospheric sciences	116	118	121	139	161	148	147	162	175
Geosciences	1,788	1,954	1,925	1,861	1,774	1,592	1,533	1,436	1,425
Oceanography	444	450	449	448	525	492	525	579	611
Earth, atmos., and ocean sci., n.e.c.	480	489	395	417	473	485	585	614	739
Mathematical sciences	2,794	2,920	2,987	3,218	3,400	3,558	3,715	3,936	4,043
Computer sciences	2,311	2,649	2,762	3,050	3,335	3,327	3,399	3,302	3,500
Agricultural sciences	2,460	2,488	2,534	2,363	2,376	2,352	2,447	2,476	2,609
Biological sciences	14,649	14,901	15,227	15,333	15,952	16,355	16,999	17,852	18,444
Anatomy	357	363	381	382	379	396	424	441	410
Biochemistry	1,374	1,472	1,588	1,662	1,797	1,808	1,907	1,944	2,030
Biology	3,524	3,592	3,589	3,454	3,523	3,530	3,692	3,971	3,998
Biometry/epidemiology	466	453	398	538	569	633	669	690	663
Biophysics	107	109	105	94	112	113	138	146	153
Botany	1,142	1,092	1,093	1,040	1,029	1,039	1,019	998	968
Cell biology	406	390	453	511	646	731	822	918	1,101
Ecology	313	287	291	315	313	294	313	343	349
Entomology/parasitology	319	336	322	285	299	286	309	316	306
Genetics	483	477	469	490	533	588	577	644	676
Microbiology	1,506	1,580	1,651	1,655	1,685	1,772	1,908	1,971	2,053
Nutrition	1,967	1,928	1,946	1,921	1,948	1,925	1,885	1,883	1,919
Pathology	379	400	413	402	426	454	437	449	469
Pharmacology	674	714	749	787	794	822	838	956	1,005
Physiology	603	614	698	741	758	743	762	823	866
Zoology	698	682	650	606	632	671	675	684	675
Biosciences, n.e.c.	331	412	431	450	489	550	624	675	803
Psychology	14,531	15,296	15,352	15,413	16,189	17,013	18,165	19,503	20,235
Social sciences	16,465	16,495	16,052	16,346	16,476	16,902	17,393	18,247	20,174
Agricultural economics	397	426	417	436	427	428	460	493	519
Anthropology	2,202	2,212	2,165	2,120	2,259	2,270	2,412	2,531	2,725
Economics (except agricultural)	2,250	2,143	2,017	2,072	2,082	2,123	2,203	2,328	2,473
Geography	637	711	679	691	656	744	730	791	812
History and philosophy of science	74	84	77	72	87	83	97	112	120
Linguistics	1,211	1,350	1,347	1,356	1,342	1,416	1,459	1,392	1,444
Political science	4,581	4,638	4,255	4,606	4,782	4,537	4,901	5,317	6,104
Sociology	2,544	2,464	2,467	2,376	2,454	2,676	2,694	2,761	3,046
Sociology/anthropology	329	354	301	294	310	282	297	336	455
Social sciences, n.e.c.	2,240	2,113	2,327	2,323	2,077	2,343	2,140	2,186	2,476
Total, health fields	16,212	16,156	16,407	16,776	16,841	16,862	17,684	18,544	19,795
Dentistry	139	149	159	161	182	238	245	235	243
Neurology	64	72	108	129	141	179	234	276	342
Nursing	6,238	5,846	5,756	5,735	5,550	5,402	5,667	5,542	5,721
Pharmaceutical sciences	511	534	569	572	627	658	719	804	830
Preventive medicine/community health	2,215	2,170	2,281	2,400	2,261	2,198	2,374	2,515	2,639
Speech pathology/audiology	4,563	4,553	4,608	4,723	4,787	4,728	4,728	5,133	5,296
Veterinary sciences	139	137	160	185	179	227	268	268	294
Clinical medicine, n.e.c.	432	473	475	507	561	518	568	600	627
Health related, n.e.c.	1,911	2,222	2,291	2,304	2,553	2,837	2,922	3,151	3,803

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-31. Female full-time science and engineering graduate students in all institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all institutions	82,056	84,504	85,493	87,207	90,384	92,476	96,678	101,555	107,416
New England	6,334	6,365	6,378	6,665	7,025	6,949	7,569	7,688	8,310
Connecticut	1,393	1,396	1,278	1,448	1,478	1,513	1,628	1,642	1,781
Maine	120	126	147	136	147	147	172	170	180
Massachusetts	3,969	3,965	4,061	4,201	4,475	4,293	4,793	4,842	5,252
New Hampshire	210	210	228	240	256	272	287	264	323
Rhode Island	465	468	494	464	463	526	474	548	535
Vermont	177	200	170	176	206	198	215	222	239
Middle Atlantic	12,639	12,947	12,529	12,543	13,265	13,538	15,005	15,358	15,965
New Jersey	1,250	1,247	1,321	1,349	1,494	1,529	1,536	1,553	1,687
New York	8,158	8,193	7,915	7,835	8,304	8,449	9,334	9,402	9,674
Pennsylvania	3,231	3,507	3,293	3,359	3,467	3,560	4,135	4,403	4,604
East North Central	14,910	15,369	14,174	14,594	15,347	16,200	18,270	19,028	19,914
Illinois	4,237	4,413	4,051	4,403	4,781	5,034	5,527	5,813	5,815
Indiana	1,779	1,799	1,803	1,641	1,726	1,846	1,824	2,304	2,556
Michigan	2,709	2,785	2,845	2,943	3,091	2,996	3,203	3,532	3,648
Ohio	4,029	4,238	3,559	3,818	3,886	4,330	3,109	3,029	3,327
Wisconsin	2,156	2,134	1,916	1,789	1,863	1,994	2,307	2,350	2,568
West North Central	5,730	5,944	5,615	5,347	5,452	5,671	6,239	6,528	6,712
Iowa	1,017	1,071	1,059	1,092	1,140	1,158	1,247	1,242	1,360
Kansas	1,275	1,303	1,094	867	857	874	914	1,041	1,117
Minnesota	1,552	1,622	1,566	1,482	1,441	1,510	1,945	2,091	1,901
Missouri	1,161	1,193	1,106	1,111	1,181	1,267	1,300	1,335	1,456
Nebraska	407	437	435	429	411	464	411	412	448
North Dakota	198	182	198	222	236	233	254	237	221
South Dakota	120	136	157	144	186	165	168	170	209
South Atlantic	11,660	11,674	11,549	12,145	12,492	12,761	14,073	15,499	16,326
Delaware	242	238	213	235	246	261	241	262	303
District of Columbia	1,326	1,162	1,109	1,337	1,395	1,381	1,596	1,621	1,799
Florida	1,943	1,946	1,976	2,176	2,163	2,239	2,492	2,993	2,746
Georgia	1,423	1,376	1,521	1,394	1,477	1,681	1,643	1,794	1,558
Maryland	1,623	1,745	1,659	1,653	1,807	1,789	1,994	2,120	2,250
North Carolina	2,376	2,368	2,272	2,318	2,381	2,476	2,711	3,001	3,078
South Carolina	609	714	651	716	680	620	715	826	839
Virginia	1,724	1,741	1,768	1,916	1,997	2,131	2,293	2,451	2,692
West Virginia	394	384	380	400	346	383	388	431	461
East South Central	3,307	3,436	3,239	3,445	3,445	3,536	3,965	4,388	4,406
Alabama	883	884	913	1,024	1,076	1,147	1,209	1,384	1,367
Kentucky	674	750	662	619	603	647	878	913	883
Mississippi	527	553	538	538	574	578	598	664	661
Tennessee	1,223	1,249	1,126	1,264	1,192	1,164	1,280	1,427	1,495
West South Central	7,107	7,450	7,240	7,076	7,154	6,928	7,851	8,592	9,131
Arkansas	343	339	220	223	204	202	319	496	614
Louisiana	1,016	1,048	1,077	1,075	1,073	1,075	1,181	1,212	1,278
Oklahoma	720	755	816	663	653	715	750	743	826
Texas	5,028	5,308	5,127	5,115	5,224	4,936	5,601	6,141	6,413
Mountain	4,888	5,015	4,968	5,042	5,236	5,536	5,548	5,610	6,349
Arizona	1,107	1,240	1,298	1,400	1,435	1,399	1,569	1,588	1,685
Colorado	1,731	1,714	1,705	1,842	1,869	2,149	1,956	1,820	2,281
Idaho	153	158	149	146	148	180	170	202	274
Montana	289	309	322	293	279	243	241	257	287
Nevada	154	204	113	92	119	135	169	236	182
New Mexico	566	509	502	541	537	579	603	570	613
Utah	730	730	730	694	747	722	705	750	830
Wyoming	158	151	149	34	102	129	135	187	197
Pacific	14,723	15,340	13,962	14,415	14,962	15,434	17,196	17,880	19,164
Alaska	86	117	93	58	75	56	80	130	148
California	11,649	12,273	11,224	11,530	12,036	12,548	13,882	14,474	15,430
Hawaii	626	608	571	602	601	575	612	605	666
Oregon	720	755	710	740	734	725	781	808	876
Washington	1,642	1,587	1,364	1,485	1,516	1,530	1,841	1,863	2,044
Outlying areas	758	964	967	1,006	1,024	885	962	984	1,139
State unknown 2/.....	0	0	4,872	4,929	4,982	5,038	0	0	0

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

2/ These numbers represent the total of all nonsampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-32. Full-time science and engineering graduate students in public institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	175,322	181,923	184,252	184,942	191,894	195,818	199,165	205,066	212,151
Total, science/engineering fields	158,143	164,791	166,727	167,158	174,010	177,256	180,044	184,638	190,466
Engineering, total	34,885	37,813	38,659	39,259	42,879	44,594	45,734	46,746	48,149
Aerospace	1,091	1,346	1,341	1,471	1,635	1,807	1,932	2,125	2,340
Agricultural	686	713	719	714	800	876	834	801	745
Biomedical	548	580	639	657	801	910	934	1,001	1,087
Chemical	3,835	3,965	3,909	3,781	3,904	3,948	3,727	3,706	3,894
Civil	7,107	7,581	7,777	7,502	7,693	7,673	7,995	7,834	8,072
Electrical	7,516	8,567	8,975	9,604	11,012	11,636	12,172	12,743	13,063
Engineering science	732	779	646	605	671	639	633	520	534
Industrial	2,925	2,512	2,639	2,800	3,050	3,191	3,321	3,668	3,828
Mechanical	5,098	5,851	6,149	6,390	7,057	7,490	7,670	7,637	7,376
Metallurgical/materials	1,548	1,674	1,796	1,921	2,126	2,197	2,164	2,424	2,582
Mining	309	367	361	331	377	369	351	283	292
Nuclear	815	822	796	820	853	841	900	906	886
Petroleum	285	435	450	430	454	516	472	418	386
Engineering, n.e.c.	2,390	2,621	2,462	2,233	2,416	2,501	2,629	2,680	2,564
Sciences, total	123,258	126,978	128,068	127,899	131,131	132,662	134,310	137,892	142,317
Physical sciences	17,326	18,198	18,567	18,995	20,091	20,494	20,621	21,036	21,344
Astronomy	382	388	394	410	438	455	470	494	518
Chemistry	10,594	11,131	11,142	11,342	11,765	11,895	11,812	11,925	11,966
Physics	6,259	6,577	6,862	7,099	7,754	7,993	8,218	8,484	8,690
Physical sciences, n.e.c.	91	102	169	144	134	151	121	133	170
Earth, atmospheric, and ocean sciences	9,462	9,992	9,836	9,434	9,334	8,737	8,488	8,314	8,489
Atmospheric sciences	688	743	750	819	820	806	815	799	817
Geosciences	6,096	6,674	6,536	6,191	5,915	5,328	5,020	4,738	4,589
Oceanography	1,337	1,348	1,345	1,257	1,369	1,395	1,408	1,505	1,555
Earth, atmos., and ocean sci., n.e.c.	1,341	1,227	1,205	1,167	1,230	1,208	1,245	1,272	1,528
Mathematical sciences	8,019	8,169	8,536	8,915	9,476	10,125	10,495	10,691	11,020
Computer sciences	6,462	7,697	8,366	9,800	10,510	10,531	10,661	10,829	11,434
Agricultural sciences	9,575	9,505	9,441	8,792	8,918	8,693	8,677	8,613	8,605
Biological sciences	27,557	27,743	28,088	27,716	28,312	28,597	29,233	30,010	30,380
Anatomy	590	621	616	585	580	607	658	691	661
Biochemistry	2,568	2,701	2,892	3,088	3,214	3,157	3,269	3,283	3,342
Biology	6,286	6,489	6,429	6,149	6,182	6,262	6,316	6,682	6,687
Biometry/epidemiology	485	468	494	527	578	651	699	776	738
Biophysics	233	233	209	204	220	247	297	330	324
Botany	2,915	2,806	2,789	2,634	2,666	2,488	2,447	2,355	2,234
Cell biology	619	595	676	726	862	1,002	1,125	1,203	1,410
Ecology	862	785	816	825	804	745	1,000	800	827
Entomology/parasitology	1,291	1,257	1,210	1,087	1,057	995	1,000	944	949
Genetics	650	685	698	752	871	906	856	892	954
Microbiology	2,604	2,766	2,857	2,916	2,899	3,021	3,252	3,211	3,251
Nutrition	2,448	2,350	2,383	2,401	2,455	2,441	2,342	2,404	2,437
Pathology	685	735	733	707	743	821	804	824	796
Pharmacology	1,322	1,358	1,345	1,413	1,412	1,412	1,460	1,526	1,608
Physiology	1,227	1,245	1,345	1,336	1,328	1,319	1,321	1,399	1,407
Zoology	2,003	1,915	1,761	1,614	1,622	1,695	1,625	1,661	1,567
Biosciences, n.e.c.	769	740	797	752	816	836	982	1,058	1,168
Psychology	15,651	16,358	16,235	15,960	16,269	16,562	17,271	17,803	18,208
Social sciences	29,206	29,316	28,999	28,287	28,221	28,923	28,864	30,596	32,837
Agricultural economics	1,886	1,958	1,925	1,892	1,888	1,779	1,801	1,801	1,846
Anthropology	2,884	2,737	2,795	2,749	2,749	2,828	2,951	3,072	3,254
Economics (except agricultural)	6,199	6,003	5,731	5,769	5,740	5,726	5,726	5,772	5,904
Geography	1,941	2,009	1,991	1,931	1,943	2,134	2,047	2,192	2,260
History and philosophy of science	122	121	126	111	112	115	130	148	180
Linguistics	1,506	1,637	1,610	1,487	1,530	1,606	1,636	1,651	1,757
Political science	7,615	7,747	7,484	7,152	7,259	7,356	7,638	8,347	9,138
Sociology	3,455	3,456	3,519	3,350	3,370	3,697	3,677	3,828	4,174
Sociology/anthropology	443	412	411	396	419	421	436	475	597
Social sciences, n.e.c.	3,155	3,236	3,407	3,450	3,209	3,258	2,822	3,308	3,727
Total, health fields	17,179	17,132	17,525	17,784	17,884	18,562	19,121	20,428	21,685
Dentistry	534	500	557	514	605	704	721	654	668
Neurology	137	146	180	202	234	293	370	398	444
Nursing	4,830	4,619	4,575	4,512	4,547	4,729	4,855	4,865	4,883
Pharmaceutical sciences	1,460	1,533	1,549	1,554	1,481	1,455	1,510	1,698	1,763
Preventive medicine/community health ...	2,709	2,714	2,776	2,926	2,868	2,946	2,998	3,026	3,358
Speech pathology/audiology	4,484	4,439	4,515	4,557	4,585	4,390	4,584	4,884	5,135
Veterinary sciences	316	298	352	432	427	510	517	585	638
Clinical medicine, n.e.c.	735	708	713	775	771	775	819	899	937
Health related, n.e.c.	1,974	2,255	2,408	2,412	2,366	2,760	2,747	3,419	3,859

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-33. Full-time science and engineering graduate students in private institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	70,724	71,655	71,178	74,378	76,291	77,272	78,694	80,923	83,685
Total, science/engineering fields	64,627	65,779	65,455	68,435	70,414	71,396	72,599	74,773	77,155
Engineering, total	15,348	16,508	16,869	17,024	17,829	17,573	17,666	17,970	18,398
Aerospace	431	494	513	533	519	565	601	647	670
Agricultural	53	53	54	53	51	48	45	50	48
Biomedical	383	451	482	472	493	482	521	610	711
Chemical	1,773	1,904	1,825	1,765	1,690	1,726	1,632	1,576	1,559
Civil	2,655	2,604	2,678	2,590	2,659	2,184	2,162	2,349	2,373
Electrical	4,017	4,636	4,882	5,148	5,310	5,404	5,481	5,653	5,647
Engineering science	545	577	626	659	774	747	801	739	798
Industrial	906	822	799	730	836	1,064	1,078	1,092	1,138
Mechanical	2,169	2,479	2,549	2,485	2,744	2,685	2,768	2,789	2,967
Metallurgical/materials	930	1,030	1,076	1,167	1,221	1,200	1,257	1,261	1,266
Mining	64	61	63	60	65	66	64	55	42
Nuclear	227	230	222	210	206	203	205	206	194
Petroleum	191	185	164	147	118	128	127	88	98
Engineering, n.e.c.	1,004	982	936	1,015	1,143	1,071	924	855	887
Sciences, total	49,279	49,271	48,586	51,411	52,585	53,823	54,933	56,803	58,757
Physical sciences	6,714	7,007	7,285	7,674	7,673	7,920	7,953	8,157	8,229
Astronomy	208	197	202	225	216	226	235	268	272
Chemistry	3,693	3,892	3,981	4,238	4,232	4,340	4,276	4,332	4,424
Physics	2,813	2,918	3,102	3,188	3,203	3,311	3,420	3,556	3,532
Physical sciences, n.e.c.	0	0	0	23	22	43	22	1	1
Earth, atmospheric, and ocean sciences	1,974	2,057	1,983	2,005	1,989	1,806	1,808	1,824	1,806
Atmospheric sciences	91	42	26	53	35	18	14	11	11
Geosciences	1,425	1,529	1,557	1,512	1,469	1,338	1,294	1,248	1,219
Geography	256	264	254	305	325	256	221	294	298
Earth, atmos., and ocean sci., n.e.c.	202	222	146	135	160	194	279	271	278
Mathematical sciences	2,804	2,795	2,783	2,918	2,922	2,924	3,028	3,014	2,850
Computer sciences	2,709	2,990	3,221	4,301	4,800	5,041	4,935	5,179	5,438
Agricultural sciences	316	331	309	305	311	290	309	313	356
Biological sciences	9,432	9,369	9,392	9,646	9,866	10,192	10,539	10,974	11,305
Anatomy	347	300	320	306	313	322	315	308	261
Biochemistry	1,282	1,306	1,371	1,400	1,450	1,482	1,499	1,602	1,594
Biology	2,758	2,521	2,542	2,382	2,395	2,423	2,567	2,651	2,653
Biometry/epidemiology	434	409	257	469	477	546	545	510	526
Biophysics	190	204	210	177	229	230	247	271	281
Botany	254	237	202	202	217	224	238	233	237
Cell biology	491	546	533	680	793	884	898	974	1,105
Ecology	48	59	61	51	53	50	56	79	63
Entomology/parasitology	49	43	54	51	50	67	61	65	66
Genetics	274	279	288	305	300	302	331	391	363
Microbiology	913	938	969	963	972	998	1,057	1,108	1,114
Nutrition	672	638	635	639	600	573	534	470	463
Pathology	336	333	350	329	325	314	322	336	348
Pharmacology	618	646	615	651	623	592	610	695	686
Physiology	578	524	624	650	677	677	687	658	709
Zoology	133	137	102	104	98	92	94	113	116
Biosciences, n.e.c.	55	244	257	287	294	416	478	510	720
Psychology	10,161	10,343	9,873	9,809	10,252	10,935	11,209	12,369	12,784
Social sciences	15,169	14,379	13,740	14,753	14,772	14,715	15,152	14,973	15,989
Agricultural economics	92	89	102	98	76	78	108	111	115
Anthropology	1,221	1,203	1,173	1,157	1,302	1,270	1,315	1,339	1,487
Economics (except agricultural)	3,280	3,212	3,093	3,206	3,263	3,280	3,346	3,373	3,442
Geography	198	193	184	193	163	156	168	166	169
History and philosophy of science	101	108	117	116	125	152	136	155	160
Linguistics	651	738	709	850	828	843	884	817	829
Political science	6,078	5,696	5,314	6,019	6,151	5,651	5,734	5,717	6,334
Sociology	1,420	1,338	1,226	1,294	1,225	1,329	1,405	1,441	1,505
Sociology/anthropology	214	259	195	169	165	139	130	158	185
Social sciences, n.e.c.	1,914	1,543	1,627	1,651	1,474	1,817	1,926	1,696	1,763
Total, health fields	6,097	5,876	5,723	5,943	5,877	5,876	6,095	6,150	6,530
Dentistry	193	201	211	231	220	205	209	205	172
Neurology	65	112	133	133	139	182	220	287	344
Nursing	1,782	1,585	1,538	1,533	1,331	1,195	1,169	1,122	1,243
Pharmaceutical sciences	243	244	250	264	282	292	319	338	374
Preventive medicine/community health	1,347	1,247	1,179	1,211	1,211	1,216	1,219	1,180	1,142
Speech pathology/audiology	869	841	777	919	810	699	731	838	705
Veterinary sciences	62	65	73	83	79	82	89	83	71
Clinical medicine, n.e.c.	341	381	326	385	376	435	451	467	494
Health related, n.e.c.	1,195	1,200	1,236	1,184	1,429	1,570	1,688	1,630	1,985

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-34. First-year full-time science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	80,778	82,268	80,731	81,531	83,278	81,440	81,510	85,978	88,160
Total, science/engineering fields	70,351	72,405	70,829	71,771	73,618	71,508	71,484	75,506	76,934
Engineering, total	18,382	19,265	19,163	18,436	20,589	19,502	19,339	19,940	20,253
Aerospace	532	614	759	722	811	920	913	982	933
Agricultural	248	266	250	238	233	245	242	202	204
Biomedical	350	366	335	359	427	417	414	449	476
Chemical	1,879	1,824	1,595	1,533	1,513	1,367	1,264	1,338	1,405
Civil	3,750	3,971	3,852	3,680	3,903	3,322	3,302	3,205	3,800
Electrical	4,466	4,648	5,100	4,875	5,667	5,437	5,582	5,716	5,745
Engineering science	374	399	372	336	441	376	346	331	285
Industrial	1,405	1,217	1,190	1,226	1,520	1,332	1,288	1,749	1,737
Mechanical	2,703	3,121	3,129	3,030	3,420	3,245	3,213	3,310	3,267
Metallurgical/materials	653	753	724	795	786	841	795	892	79
Mining	116	157	113	116	134	111	113	291	294
Nuclear	331	335	283	274	295	303	155	88	112
Petroleum	176	207	132	132	146	139	117	1,007	1,024
Engineering, n.e.c.	1,399	1,387	1,309	1,120	1,293	1,247	1,117		
Sciences, total	51,969	53,140	51,666	53,335	53,029	52,006	52,145	55,566	56,681
Physical sciences	6,185	6,705	6,513	6,645	6,935	6,779	6,528	6,842	6,817
Astronomy	146	123	129	155	143	172	159	160	172
Chemistry	3,757	3,965	3,779	3,880	3,922	3,764	3,660	3,851	3,794
Physics	2,260	2,562	2,534	2,550	2,794	2,772	2,663	2,784	2,789
Physical sciences, n.e.c.	22	25	71	60	76	71	46	47	62
Earth, atmospheric, and ocean sciences	3,648	3,775	3,387	3,275	3,091	2,609	2,603	2,672	2,707
Atmospheric sciences	224	210	226	286	263	213	213	211	247
Geosciences	2,466	2,707	2,353	2,135	1,958	1,555	1,496	1,453	1,574
Oceanography	410	421	415	392	414	366	390	438	433
Earth, atmos., and ocean sci., n.e.c.	548	437	393	462	456	432	504	570	653
Mathematical sciences	3,694	3,600	3,738	3,985	4,029	3,900	3,919	4,224	4,244
Computer sciences	3,330	3,898	4,056	4,774	5,033	5,135	5,229	5,707	5,396
Agricultural sciences	2,914	2,793	2,658	2,418	2,364	2,160	2,166	2,314	2,399
Biological sciences	9,626	9,907	9,870	9,887	9,808	9,877	9,845	10,102	10,371
Anatomy	219	218	252	197	234	238	254	238	204
Biochemistry	933	1,007	1,035	1,098	1,100	993	1,032	1,075	1,060
Biology	2,581	2,588	2,636	2,415	2,385	2,457	2,406	2,488	2,530
Biometry/epidemiology	270	253	240	367	392	433	470	480	458
Biophysics	103	97	83	64	93	102	130	125	129
Botany	796	754	687	678	690	628	619	568	539
Cell biology	223	255	299	345	383	430	464	486	580
Ecology	192	192	178	207	171	149	189	155	187
Entomology/parasitology	283	260	272	249	236	247	204	199	221
Genetics	241	255	256	271	277	287	260	307	296
Microbiology	891	955	956	965	921	900	934	975	953
Nutrition	949	975	927	947	886	938	825	831	863
Pathology	247	282	273	255	250	266	245	270	259
Pharmacology	432	490	459	510	485	484	476	492	553
Physiology	519	566	616	629	604	579	596	590	653
Zoology	484	526	421	406	426	433	403	423	408
Biosciences, n.e.c.	263	234	280	284	275	313	338	400	480
Psychology	7,567	7,804	7,558	7,837	7,703	7,874	8,258	9,115	8,800
Social sciences	15,005	14,658	13,886	14,514	14,066	13,672	13,597	14,590	15,947
Agricultural economics	639	665	679	663	616	620	598	612	609
Anthropology	917	854	890	882	936	984	980	1,055	1,133
Economics (except agricultural)	3,096	2,887	2,660	2,684	2,687	2,487	2,588	2,543	2,836
Geography	719	745	680	717	688	716	706	762	783
History and philosophy of science	53	52	59	61	65	65	60	77	77
Linguistics	658	798	790	685	700	648	698	655	712
Political science	5,398	5,169	4,720	5,191	5,138	4,677	4,650	5,229	5,866
Sociology	1,244	1,225	1,218	1,181	1,181	1,354	1,306	1,559	1,523
Sociology/anthropology	223	214	159	198	206	200	213	204	247
Social sciences, n.e.c.	2,058	2,049	2,031	2,160	1,853	2,021	1,798	1,994	2,161
Total health fields	10,427	9,863	9,902	9,760	9,660	9,932	10,026	10,472	11,226
Dentistry	277	262	317	314	381	403	388	367	337
Neurology	47	71	86	91	93	120	131	171	194
Nursing	3,056	2,770	2,606	2,471	2,271	2,332	2,319	2,233	2,224
Pharmaceutical sciences	455	454	460	443	452	451	424	532	565
Preventive medicine/community health	2,219	1,975	2,075	2,098	2,016	2,043	1,946	2,026	2,161
Speech pathology/audiology	2,438	2,335	2,375	2,371	2,299	2,171	2,351	2,397	2,503
Veterinary sciences	99	119	112	126	132	154	160	153	174
Clinical medicine, n.e.c.	374	366	326	386	418	423	423	516	533
Health related, n.e.c.	1,462	1,511	1,545	1,460	1,598	1,835	1,884	2,077	2,535

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-35. Full-time science and engineering graduate students beyond first year in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	165,268	171,310	174,699	177,789	184,907	191,650	196,349	200,011	207,676
Total, science/engineering fields	152,419	158,165	161,353	163,822	170,806	177,144	181,159	183,905	190,687
Engineering, total	31,851	35,056	36,365	37,847	40,119	42,665	44,061	44,776	46,294
Aerospace	990	1,226	1,095	1,272	1,343	1,452	1,620	1,790	2,077
Agricultural	491	500	523	529	648	679	637	649	589
Biomedical	581	665	786	770	867	975	1,041	1,162	1,322
Chemical	3,729	4,045	4,139	4,013	4,081	4,307	4,095	3,944	4,048
Civil	6,012	6,214	6,603	6,412	6,449	6,535	6,855	6,678	6,645
Electrical	7,067	8,555	8,757	9,877	10,655	11,603	12,071	12,680	12,965
Engineering science	903	957	900	928	1,004	1,010	1,088	928	1,047
Industrial	2,426	2,117	2,248	2,304	2,366	2,723	2,811	3,011	3,229
Mechanical	4,564	5,209	5,569	5,845	6,381	6,930	7,225	7,116	7,576
Metallurgical/materials	1,825	1,951	2,148	2,293	2,561	2,556	2,622	2,793	2,956
Mining	257	271	311	275	308	324	302	259	255
Nuclear	711	717	735	756	764	741	814	820	786
Petroleum	300	413	462	445	426	505	444	418	372
Engineering, n.e.c.	1,995	2,216	2,089	2,128	2,266	2,325	2,436	2,528	2,427
Sciences, total	120,568	123,109	124,988	125,975	130,687	134,479	137,098	139,129	144,393
Physical sciences	17,855	18,500	19,339	20,024	20,829	21,635	22,046	22,351	22,756
Astronomy	444	462	467	480	511	509	546	602	618
Chemistry	10,530	11,028	11,344	11,700	12,075	12,471	12,628	12,406	12,596
Physics	6,812	6,933	7,430	7,737	8,163	8,532	8,975	9,256	9,433
Physical sciences, n.e.c.	69	77	98	107	80	123	97	87	109
Earth, atmospheric, and ocean sciences	7,788	8,274	8,432	8,164	8,232	7,934	7,693	7,466	7,588
Atmospheric sciences	555	575	550	586	592	568	616	599	581
Geosciences	5,055	5,496	5,740	5,568	5,426	5,111	4,818	4,533	4,234
Oceanography	1,183	1,191	1,184	1,170	1,280	1,285	1,239	1,361	1,420
Earth, atmos., and ocean sci., n.e.c.	995	1,012	958	840	934	970	1,020	973	1,153
Mathematical sciences	7,129	7,364	7,581	7,848	8,369	9,149	9,604	9,481	9,626
Computer sciences	5,841	6,789	7,531	9,327	10,277	10,437	10,367	10,301	11,476
Agricultural sciences	6,977	7,043	7,092	6,679	6,865	6,823	6,820	6,612	6,562
Biological sciences	27,363	27,205	27,610	27,475	28,370	28,912	29,927	30,882	31,314
Anatomy	718	703	684	694	659	691	719	761	718
Biochemistry	2,917	3,000	3,228	3,390	3,564	3,646	3,735	3,810	3,876
Biology	6,463	6,422	6,335	6,116	6,192	6,228	6,277	6,845	6,810
Biometry/epidemiology	649	624	511	629	663	774	774	768	806
Biophysics	320	340	336	317	356	366	414	485	476
Botany	2,373	2,289	2,306	2,158	2,193	2,086	2,066	2,020	1,932
Cell biology	887	883	910	1,061	1,272	1,456	1,559	1,691	1,935
Ecology	718	652	699	669	686	647	647	724	703
Entomology/parasitology	1,057	1,045	992	889	894	815	857	810	794
Genetics	683	709	730	786	894	921	927	976	1,025
Microbiology	2,626	2,749	2,870	2,914	2,950	3,119	3,375	3,344	3,410
Nutrition	2,171	2,013	2,091	2,093	2,169	2,076	2,051	2,043	2,057
Pathology	774	786	810	781	820	869	881	890	885
Pharmacology	1,508	1,514	1,539	1,554	1,551	1,520	1,594	1,729	1,741
Physiology	1,286	1,200	1,353	1,357	1,401	1,417	1,412	1,467	1,463
Zoology	1,652	1,526	1,442	1,312	1,294	1,354	1,316	1,351	1,275
Biosciences, n.e.c.	561	750	774	755	835	939	1,122	1,168	1,408
Psychology	18,245	18,897	18,550	17,932	18,818	19,623	20,222	21,057	22,192
Social sciences	29,370	29,037	28,853	28,526	28,927	29,966	30,419	30,979	32,879
Agricultural economics	1,339	1,382	1,348	1,327	1,348	1,337	1,311	1,300	1,352
Anthropology	3,188	3,086	3,078	2,924	3,115	3,114	3,286	3,356	3,608
Economics (except agricultural)	6,383	6,328	6,164	6,291	6,316	6,542	6,484	6,604	6,510
Geography	1,420	1,457	1,495	1,407	1,420	1,574	1,509	1,596	1,646
History and philosophy of science	170	184	174	176	176	202	206	226	263
Linguistics	1,499	1,577	1,529	1,652	1,658	1,801	1,822	1,813	1,874
Political science	8,295	8,274	8,078	7,980	8,272	8,330	8,722	8,835	9,606
Sociology	3,631	3,569	3,527	3,463	3,414	3,672	3,776	3,810	4,156
Sociology/anthropology	434	457	447	367	378	360	353	429	535
Social sciences, n.e.c.	3,011	2,730	3,003	2,941	2,830	3,034	2,950	3,010	3,329
Total, health fields	12,849	13,145	13,346	13,967	14,101	14,506	15,190	16,106	16,989
Dentistry	450	439	451	431	444	506	542	492	503
Neurology	155	187	227	244	280	355	459	514	594
Nursing	3,556	3,434	3,509	3,275	3,607	3,592	3,705	3,754	3,902
Pharmaceutical sciences	1,248	1,243	1,209	1,274	1,311	1,296	1,405	1,504	1,572
Preventive medicine/community health	1,837	1,886	1,880	2,039	2,063	2,119	2,271	2,180	2,339
Speech pathology/audiology	2,915	2,945	2,917	3,105	3,096	2,918	2,964	3,325	3,337
Veterinary sciences	279	244	213	374	438	438	446	515	535
Clinical medicine, n.e.c.	702	723	713	774	729	787	847	850	898
Health related, n.e.c.	1,707	1,944	2,099	2,136	2,197	2,495	2,551	2,972	3,309

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-36. Full-time science and engineering graduate students in all institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	246,046	253,578	255,430	259,320	268,185	273,090	277,859	285,989	295,836
Total U.S. citizens	188,409	191,391	191,703	190,873	192,821	194,049	193,979	198,912	205,026
Black, non-Hispanic	6,408	6,661	6,618	6,496	6,491	6,500	7,093	7,703	8,249
American Indian/Alaskan Native	639	694	634	560	575	616	682	669	768
Asian/Pacific Islander	5,487	6,235	6,958	7,848	8,649	9,847	10,294	10,782	12,106
Hispanic	5,035	5,968	5,939	6,165	6,282	6,274	6,628	7,073	7,833
White, non-Hispanic	152,315	160,389	159,527	156,283	159,663	159,770	160,513	163,431	168,373
Other or unknown	18,525	11,444	12,027	13,521	11,161	11,042	8,769	9,254	7,697
Non-U.S. citizens	57,637	62,187	63,727	68,447	75,364	79,041	83,880	87,077	90,810
Sciences, total	172,537	176,249	176,654	179,310	183,716	186,485	189,243	194,695	201,074
Total U.S. citizens	138,622	139,341	138,575	137,561	138,164	138,309	138,058	141,338	145,149
Black, non-Hispanic	5,104	5,220	5,118	4,933	4,861	4,931	5,284	5,684	6,161
American Indian/Alaskan Native	454	487	442	410	416	455	498	491	591
Asian/Pacific Islander	3,471	3,964	4,272	4,720	5,165	5,913	6,231	6,564	7,330
Hispanic	3,881	4,326	4,317	4,408	4,443	4,359	4,592	4,990	5,488
White, non-Hispanic	113,152	118,153	116,582	114,056	115,778	115,500	115,756	117,943	120,723
Other or unknown	12,560	7,191	7,844	9,034	7,501	7,151	5,697	5,666	4,856
Non-U.S. citizens	33,915	36,908	38,079	41,749	45,552	48,176	51,185	53,357	55,925
Physical sciences	24,040	25,205	25,852	26,669	27,764	28,414	28,574	29,193	29,573
Total U.S. citizens	17,555	17,973	18,250	18,186	18,266	18,386	18,090	18,063	17,898
Black, non-Hispanic	418	412	437	379	391	406	442	479	482
American Indian/Alaskan Native	32	40	65	28	35	36	43	39	56
Asian/Pacific Islander	532	589	747	790	766	896	1,039	984	1,038
Hispanic	387	449	462	530	549	514	549	581	529
White, non-Hispanic	14,742	15,472	15,429	15,219	15,368	15,098	15,135	15,230	15,415
Other or unknown	1,444	1,011	1,110	1,240	1,157	1,436	882	750	378
Non-U.S. citizens	6,485	7,232	7,602	8,483	9,498	10,028	10,484	11,130	11,675
Earth, atmospheric, and ocean sciences	11,436	12,049	11,819	11,439	11,323	10,543	10,296	10,138	10,295
Total U.S. citizens	9,789	10,358	10,224	9,748	9,432	8,575	8,116	7,813	7,827
Black, non-Hispanic	76	82	84	85	65	68	77	67	88
American Indian/Alaskan Native	17	24	18	19	17	15	23	21	25
Asian/Pacific Islander	136	155	144	155	124	143	173	165	197
Hispanic	132	145	193	184	179	183	167	172	187
White, non-Hispanic	8,388	9,320	8,804	8,482	8,458	7,699	7,386	7,182	7,134
Other or unknown	1,040	632	981	823	589	467	290	206	196
Non-U.S. citizens	1,647	1,691	1,595	1,691	1,891	1,968	2,180	2,325	2,468
Mathematical sciences	10,823	10,964	11,319	11,833	12,398	13,049	13,523	13,705	13,870
Total U.S. citizens	6,935	6,722	6,781	7,009	7,253	7,555	7,749	7,717	8,076
Black, non-Hispanic	174	164	187	198	244	257	217	254	264
American Indian/Alaskan Native	20	12	4	6	9	21	16	20	13
Asian/Pacific Islander	298	337	304	413	468	504	472	435	571
Hispanic	174	205	176	165	165	192	219	221	263
White, non-Hispanic	5,571	5,585	5,575	5,656	5,876	5,934	6,304	6,332	6,531
Other or unknown	698	419	535	571	491	647	521	455	434
Non-U.S. citizens	3,888	4,242	4,538	4,824	5,145	5,494	5,774	5,988	5,794
Computer sciences	9,171	10,687	11,587	14,101	15,310	15,572	15,596	16,008	16,872
Total U.S. citizens	5,981	6,724	7,052	8,551	9,176	9,087	8,776	8,941	8,932
Black, non-Hispanic	198	207	204	204	289	297	326	344	366
American Indian/Alaskan Native	15	11	37	45	10	15	12	17	18
Asian/Pacific Islander	365	558	545	735	884	1,062	1,140	1,115	1,204
Hispanic	105	105	115	130	161	161	162	199	191
White, non-Hispanic	4,339	5,053	5,345	6,006	6,659	6,635	6,419	6,432	6,464
Other or unknown	959	790	806	1,431	1,173	917	717	834	689
Non-U.S. citizens	3,190	3,963	4,535	5,550	6,134	6,485	6,820	7,067	7,940
Agricultural sciences	9,891	9,836	9,750	9,097	9,229	8,983	8,986	8,926	8,961
Total U.S. citizens	7,508	7,368	7,329	6,759	6,685	6,366	6,376	6,359	6,287
Black, non-Hispanic	123	112	104	111	93	98	118	123	134
American Indian/Alaskan Native	12	20	18	13	17	15	19	18	17
Asian/Pacific Islander	117	113	127	110	113	146	185	218	241
Hispanic	164	182	200	267	250	180	231	249	262
White, non-Hispanic	6,556	6,690	6,756	6,009	6,028	5,793	5,643	5,578	5,449
Other or unknown	536	251	124	249	184	134	180	173	164
Non-U.S. citizens	2,383	2,468	2,421	2,338	2,544	2,617	2,610	2,567	2,674

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-36. Full-time science and engineering graduate students in all institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Biological sciences	36,989	37,112	37,480	37,362	38,178	38,789	39,772	40,984	41,685
Total U.S. citizens	31,950	31,579	31,660	30,990	30,943	30,691	30,669	30,838	30,850
Black, non-Hispanic	784	837	811	812	769	769	823	893	943
American Indian/Alaskan Native	67	90	70	74	88	76	81	71	109
Asian/Pacific Islander	906	1,031	1,126	1,252	1,352	1,444	1,580	1,761	2,019
Hispanic	618	723	680	764	762	839	913	979	978
White, non-Hispanic	27,761	28,015	28,223	27,122	27,172	26,637	26,586	26,277	26,144
Other or unknown	1,814	883	750	966	800	926	686	857	657
Non-U.S. citizens	5,039	5,533	5,820	6,372	7,235	8,098	9,103	10,146	10,835
Psychology	25,812	26,701	26,108	25,769	26,521	27,497	28,480	30,172	30,992
Total U.S. citizens	24,733	25,607	25,063	24,608	25,351	26,282	27,149	28,811	29,494
Black, non-Hispanic	1,021	1,140	1,111	1,060	1,090	1,073	1,182	1,254	1,291
American Indian/Alaskan Native	78	93	82	89	99	113	121	130	151
Asian/Pacific Islander	319	368	384	381	445	555	580	642	729
Hispanic	1,032	1,134	1,148	1,008	1,141	1,100	1,118	1,260	1,414
White, non-Hispanic	19,192	21,345	20,636	20,485	21,197	22,362	23,001	24,504	25,006
Other or unknown	3,091	1,527	1,702	1,585	1,379	1,079	1,147	1,021	903
Non-U.S. citizens	1,079	1,094	1,045	1,161	1,170	1,215	1,331	1,361	1,498
Social sciences	44,375	43,695	42,739	43,040	42,993	43,638	44,016	45,569	48,826
Total U.S. citizens	34,171	33,010	32,216	31,710	31,058	31,367	31,133	32,796	35,785
Black, non-Hispanic	2,310	2,266	2,180	2,084	1,920	1,963	2,099	2,270	2,573
American Indian/Alaskan Native	213	197	148	136	141	164	183	175	202
Asian/Pacific Islander	798	813	895	884	1,013	1,163	1,062	1,244	1,331
Hispanic	1,262	1,383	1,343	1,360	1,236	1,190	1,233	1,329	1,664
White, non-Hispanic	26,603	26,673	25,814	25,077	25,020	25,342	25,282	26,008	28,580
Other or unknown	2,978	1,678	1,836	2,169	1,728	1,545	1,274	1,370	1,435
Non-U.S. citizens	10,204	10,685	10,523	11,330	11,935	12,271	12,883	12,773	13,041
Engineering, total	50,233	54,321	55,528	56,283	60,708	62,167	63,400	64,716	66,547
Total U.S. citizens	28,812	31,450	32,223	32,127	33,597	34,063	33,783	34,272	35,211
Black, non-Hispanic	519	663	700	704	769	718	833	955	961
American Indian/Alaskan Native	76	98	110	68	78	66	78	66	66
Asian/Pacific Islander	1,419	1,724	2,129	2,575	2,827	3,217	3,280	3,314	3,690
Hispanic	601	773	733	754	854	851	947	1,020	1,109
White, non-Hispanic	21,673	24,559	25,211	24,657	26,283	26,130	26,265	26,137	27,157
Other or unknown	4,524	3,633	3,340	3,369	2,786	3,081	2,380	2,780	2,232
Non-U.S. citizens	21,421	22,871	23,305	24,156	27,111	28,104	29,617	30,444	31,336
Chemical engineering	5,608	5,869	5,734	5,546	5,594	5,674	5,359	5,282	5,453
Total U.S. citizens	3,267	3,630	3,603	3,337	3,412	3,362	2,967	2,677	2,702
Black, non-Hispanic	60	64	54	52	61	63	59	60	65
American Indian/Alaskan Native	9	9	7	6	2	22	5	5	1
Asian/Pacific Islander	219	235	260	200	230	287	253	184	263
Hispanic	63	60	97	74	86	91	110	93	118
White, non-Hispanic	2,650	3,032	2,946	2,818	2,846	2,766	2,435	2,236	2,211
Other or unknown	266	230	239	187	187	129	88	99	44
Non-U.S. citizens	2,341	2,239	2,131	2,209	2,182	2,312	2,392	2,605	2,751
Civil engineering	9,762	10,185	10,455	10,092	10,352	9,857	10,157	10,183	10,445
Total U.S. citizens	5,714	5,820	5,948	5,568	5,572	5,240	5,359	5,251	5,585
Black, non-Hispanic	74	107	114	114	105	84	111	158	125
American Indian/Alaskan Native	6	12	9	9	16	5	13	15	18
Asian/Pacific Islander	214	251	260	293	307	366	340	344	442
Hispanic	129	171	183	158	184	164	168	168	202
White, non-Hispanic	4,495	4,685	4,714	4,508	4,552	4,218	4,438	4,311	4,525
Other or unknown	796	594	676	486	408	403	289	255	273
Non-U.S. citizens	4,048	4,365	4,507	4,524	4,780	4,617	4,798	4,932	4,860
Electrical engineering	11,533	13,203	13,857	14,752	16,322	17,040	17,653	18,396	18,710
Total U.S. citizens	6,421	7,363	7,861	8,113	8,609	8,959	9,274	9,693	9,770
Black, non-Hispanic	144	200	219	228	256	237	291	320	324
American Indian/Alaskan Native	35	25	27	16	33	5	16	19	18
Asian/Pacific Islander	347	460	763	920	1,004	1,234	1,337	1,356	1,533
Hispanic	143	180	201	213	259	255	269	299	294
White, non-Hispanic	4,590	5,261	5,587	5,740	6,219	6,373	6,557	6,866	6,879
Other or unknown	1,162	1,237	1,064	996	838	855	804	833	722
Non-U.S. citizens	5,112	5,840	5,996	6,639	7,713	8,081	8,379	8,703	8,940

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-36. Full-time science and engineering graduate students in all institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Industrial engineering	3,831	3,334	3,438	3,530	3,886	4,255	4,399	4,760	4,966
Total U.S. citizens	2,205	1,962	1,967	1,907	2,085	2,191	2,284	2,470	2,580
Black, non-Hispanic	64	71	74	70	76	77	105	105	119
American Indian/Alaskan Native	3	3	15	5	2	4	4	8	7
Asian/Pacific Islander	123	80	83	125	178	174	199	202	184
Hispanic	89	58	60	84	98	90	105	119	115
White, non-Hispanic	1,689	1,671	1,632	1,476	1,601	1,637	1,677	1,838	1,921
Other or unknown	237	79	103	147	130	209	194	198	234
Non-U.S. citizens	1,626	1,372	1,471	1,623	1,801	2,064	2,115	2,290	2,386
Mechanical engineering	7,267	8,330	8,698	8,875	9,801	10,175	10,438	10,426	10,843
Total U.S. citizens	3,767	4,327	4,591	4,858	5,226	5,526	5,314	5,576	5,785
Black, non-Hispanic	58	76	92	84	96	102	122	120	151
American Indian/Alaskan Native	3	11	9	11	5	12	8	6	6
Asian/Pacific Islander	181	213	272	451	481	524	462	471	469
Hispanic	70	64	66	95	100	108	110	120	158
White, non-Hispanic	2,550	3,568	3,687	3,469	4,045	4,013	4,067	3,892	4,457
Other or unknown	905	395	465	748	499	767	545	967	544
Non-U.S. citizens	3,500	4,003	4,107	4,017	4,575	4,649	5,124	4,850	5,058
Other engineering	12,232	13,400	13,346	13,488	14,753	15,166	15,394	15,669	16,130
Total U.S. citizens	7,438	8,348	8,253	8,344	8,693	8,785	8,585	8,605	8,789
Black, non-Hispanic	119	145	155	156	175	155	145	192	177
American Indian/Alaskan Native	20	38	43	21	20	14	15	13	16
Asian/Pacific Islander	335	485	491	586	627	632	689	757	799
Hispanic	107	240	126	130	127	143	185	221	222
White, non-Hispanic	5,699	6,342	6,645	6,646	7,020	7,123	7,091	6,994	7,160
Other or unknown	1,158	1,098	793	805	724	718	460	428	415
Non-U.S. citizens	4,794	5,052	5,093	5,144	6,060	6,381	6,809	7,064	7,341
Total, health fields	23,276	23,008	23,248	23,727	23,761	24,438	25,216	26,578	28,215
Total U.S. citizens	20,975	20,600	20,905	21,185	21,060	21,677	22,138	23,302	24,666
Black, non-Hispanic	785	778	800	859	861	851	976	1,064	1,127
American Indian/Alaskan Native	109	109	82	82	81	95	106	112	111
Asian/Pacific Islander	597	547	557	553	657	717	783	904	1,086
Hispanic	553	869	889	1,003	985	1,064	1,089	1,063	1,236
White, non-Hispanic	17,490	17,677	17,734	17,570	17,602	18,140	18,492	19,351	20,497
Other or unknown	1,441	620	843	1,118	874	810	692	808	609
Non-U.S. citizens	2,301	2,408	2,343	2,542	2,701	2,761	3,078	3,276	3,549

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-37. Full-time science and engineering graduate students in all institutions by field and source of major support: 1982-90

Page 1 of 4

Field and source of major support	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields									
Total, all sources	246,046	253,578	255,430	259,320	268,185	273,090	277,859	285,989	295,836
Federal, total	47,583	47,898	47,912	49,220	51,524	53,708	55,684	57,899	59,863
Dept of Defense	5,945	7,011	7,151	7,332	7,945	8,801	9,520	9,200	8,816
Dept of HHS, total	15,862	15,020	15,160	15,913	16,430	17,272	18,049	18,859	19,656
NIH	10,844	10,867	11,012	11,142	11,898	12,966	13,792	14,493	15,030
Other HHS	5,018	4,153	4,148	4,771	4,532	4,306	4,257	4,366	4,606
NSF	9,287	9,524	9,853	10,183	10,834	11,247	11,637	11,901	12,016
USDA	NA	NA	NA	2,181	2,347	2,696	2,607	2,745	2,733
All other Federal	16,489	16,343	15,748	13,611	13,968	13,992	13,875	15,214	16,662
Institutional support	95,558	98,544	102,562	104,623	109,742	112,744	115,457	119,853	123,455
Other outside support, total	24,256	24,951	24,910	26,678	26,848	25,991	25,857	26,011	26,472
All other U.S.	15,183	15,960	16,724	18,871	19,144	18,424	18,907	19,305	19,880
Foreign	9,073	8,991	8,186	7,807	7,704	7,567	6,950	6,706	6,592
Self-support	78,649	82,185	80,046	78,799	80,071	81,047	80,861	82,226	86,046
Sciences, total									
Total, all sources	172,537	176,249	176,654	179,310	183,716	186,485	189,243	194,695	201,074
Federal, total	30,044	30,153	30,428	31,678	33,008	34,082	35,259	36,858	37,968
Dept of Defense	2,294	2,737	3,065	3,273	3,598	3,978	4,306	3,952	3,741
Dept of HHS, total	10,490	10,212	10,375	10,723	11,340	12,019	12,748	13,443	13,870
NIH	9,180	9,196	9,506	9,628	10,321	10,976	11,822	12,349	12,742
Other HHS	1,310	1,016	869	7,095	7,019	7,043	926	1,094	1,128
NSF	6,680	6,813	7,115	7,455	7,663	7,720	7,779	8,085	8,089
USDA	NA	NA	NA	8,229	8,296	8,392	8,047	8,889	9,886
All other Federal	10,580	10,391	9,873	8,389	8,398	85,334	87,477	90,091	92,835
Institutional support	75,018	77,057	79,633	80,389	85,023	87,280	89,474	90,091	92,835
Other outside support, total	15,048	15,124	14,517	15,328	15,066	14,700	14,509	14,509	14,581
All other U.S.	8,935	9,064	9,087	10,267	10,066	9,700	9,949	10,354	10,543
Foreign	6,113	6,060	5,430	5,061	4,957	4,580	4,525	4,155	4,038
Self-support	52,427	53,915	52,076	51,915	52,287	52,789	52,033	53,237	55,690
Physical sciences									
Total, all sources	24,040	25,205	25,852	26,669	27,764	28,414	28,574	29,193	29,573
Federal, total	7,713	8,126	8,640	8,821	9,523	9,717	9,857	10,247	10,333
Dept of Defense	707	831	1,011	1,024	1,161	1,292	1,475	1,392	1,216
Dept of HHS, total	1,518	1,535	1,628	1,796	2,012	2,097	2,152	2,111	2,116
NIH	1,433	1,437	1,506	1,635	1,847	1,930	2,002	1,981	1,972
Other HHS	85	98	122	161	165	167	150	130	144
NSF	3,114	3,218	3,406	3,516	3,671	3,590	3,656	3,612	3,576
USDA	NA	NA	NA	35	31	44	32	43	54
All other Federal	2,374	2,542	2,595	2,450	2,648	2,694	2,542	3,089	3,371
Institutional support	13,001	13,601	13,701	13,962	14,417	14,821	14,860	15,138	15,239
Other outside support, total	1,785	1,705	1,830	2,091	1,931	1,873	1,980	2,019	2,009
All other U.S.	1,330	1,237	1,391	1,656	1,588	1,596	1,662	1,763	1,755
Foreign	455	468	439	435	343	277	318	256	254
Self-support	1,541	1,773	1,681	1,795	1,893	2,003	1,877	1,789	1,992
Earth, atmospheric, and ocean sciences									
Total, all sources	11,436	12,049	11,819	11,439	11,323	10,543	10,296	10,138	10,295
Federal, total	2,854	2,874	2,848	2,960	3,033	2,868	2,799	2,863	2,939
Dept of Defense	300	365	372	418	453	499	461	435	409
Dept of HHS, total	77	38	41	41	39	58	51	25	34
NIH	42	15	30	26	25	24	19	17	21
Other HHS	35	23	11	15	14	34	32	8	13
NSF	1,192	1,325	1,341	1,374	1,357	1,261	1,236	1,253	1,191
USDA	NA	NA	NA	42	18	33	45	43	63
All other Federal	1,285	1,146	1,094	1,085	1,166	1,017	1,006	1,107	1,242
Institutional support	4,254	4,261	4,381	4,160	4,380	4,226	4,336	4,353	4,270
Other outside support, total	1,220	1,293	1,259	1,401	1,186	1,006	1,043	1,004	981
All other U.S.	856	985	940	1,038	874	679	679	603	706
Foreign	364	308	319	363	312	327	364	341	272
Self-support	3,108	3,621	3,331	2,918	2,724	2,443	2,118	1,918	2,105
Mathematical sciences									
Total, all sources	10,823	10,964	11,319	11,833	12,398	13,049	13,523	13,705	13,870
Federal, total	818	760	762	935	999	1,090	1,190	1,211	1,346
Dept of Defense	374	310	304	386	432	438	513	395	367
Dept of HHS, total	39	41	26	21	24	30	28	36	49
NIH	25	28	22	18	19	24	25	28	39
Other HHS	14	13	4	3	5	6	8	10	10
NSF	228	223	279	321	357	436	463	475	500
USDA	NA	NA	NA	13	18	16	20	22	23
All other Federal	177	186	153	194	168	170	166	283	407
Institutional support	7,159	7,493	7,767	8,111	8,485	8,836	9,136	9,390	9,480
Other outside support, total	544	511	632	549	598	548	617	604	562
All other U.S.	185	174	272	257	253	239	351	367	327
Foreign	359	337	360	292	345	309	266	237	235
Self-support	2,302	2,200	2,158	2,238	2,316	2,575	2,580	2,500	2,482

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-37. Full-time science and engineering graduate students in all institutions by field and source of major support: 1982-90

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Field and source of major support	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Computer sciences									
Total, all sources	9,171	10,687	11,587	14,101	15,310	15,572	15,596	16,008	16,872
Federal, total	1,075	1,130	1,269	1,638	1,892	2,084	2,226	2,361	2,444
Dept of Defense	387	475	630	860	1,037	1,137	1,214	1,164	1,129
Dept of HHS, total	47	29	25	21	45	62	64	60	71
NIH	42	26	24	20	43	61	64	53	62
Other HHS	5	3	1	1	2	1	0	7	9
NSF	389	386	431	502	527	623	634	779	819
USDA	NA	NA	NA	23	3	17	10	7	14
All other Federal	252	240	183	251	280	245	304	351	411
Institutional support	2,724	3,216	3,691	4,308	4,573	5,000	5,162	5,337	5,592
Other outside support, total	799	834	818	1,024	1,254	1,283	1,283	1,265	1,301
All other U.S.	579	576	563	1,024	1,254	1,283	1,283	1,265	1,301
Foreign	220	258	255	354	318	300	329	332	350
Self-support	4,573	5,507	5,809	6,777	7,291	7,205	6,908	7,045	7,535
Agricultural sciences									
Total, all sources	9,891	9,836	9,750	9,097	9,229	8,983	8,986	8,926	8,961
Federal, total	1,671	1,545	1,395	1,539	1,638	1,699	1,742	1,773	1,722
Dept of Defense	8	15	17	28	17	30	32	13	18
Dept of HHS, total	38	25	18	17	15	29	32	28	36
NIH	33	19	17	17	14	22	31	17	31
Other HHS	5	6	1	0	1	7	1	11	5
NSF	72	67	68	94	71	59	49	47	59
USDA	NA	NA	NA	682	896	937	943	1,053	880
All other Federal	1,553	1,438	1,292	718	639	644	686	632	729
Institutional support	3,514	3,645	3,929	3,449	3,599	3,565	3,446	3,400	3,425
Other outside support, total	2,046	2,111	1,955	1,875	1,774	1,595	1,684	1,628	1,737
All other U.S.	884	949	913	1,007	913	801	918	903	1,104
Foreign	1,162	1,162	1,042	868	861	794	766	635	633
Self-support	2,660	2,535	2,471	2,234	2,218	2,124	2,114	2,125	2,077
Biological sciences									
Total, all sources	36,989	37,112	37,480	37,362	38,178	38,789	39,772	40,984	41,685
Federal, total	10,270	10,369	10,495	10,785	11,229	11,959	12,595	13,389	13,811
Dept of Defense	123	243	241	220	192	251	288	262	242
Dept of HHS, total	7,004	7,169	7,272	7,450	7,951	8,410	8,979	9,687	9,976
NIH	6,680	6,859	7,049	7,093	7,582	8,076	8,711	9,332	9,608
Other HHS	324	310	223	357	369	334	268	355	368
NSF	1,131	1,065	1,083	1,077	1,084	1,141	1,126	1,259	1,223
USDA	NA	NA	NA	819	819	992	1,007	971	986
All other Federal	2,012	1,892	1,899	1,223	1,183	1,165	1,195	1,210	1,384
Institutional support	16,610	16,741	17,275	17,158	17,739	17,789	18,083	18,635	19,108
Other outside support, total	3,132	3,238	3,137	3,280	3,099	3,503	3,485	3,334	3,649
All other U.S.	2,019	2,089	2,104	2,339	2,157	2,312	2,630	2,709	2,897
Foreign	1,113	1,149	1,033	941	942	891	825	825	752
Self-support	6,977	6,764	6,573	6,139	6,111	5,838	5,609	5,426	5,117
Psychology									
Total, all sources	25,812	26,701	26,108	25,769	26,521	27,497	28,480	30,172	30,992
Federal, total	2,414	2,141	2,062	2,057	2,035	2,052	2,173	2,215	2,401
Dept of Defense	128	174	157	140	158	177	156	117	159
Dept of HHS, total	1,323	1,024	1,043	1,056	950	1,009	1,124	1,183	1,274
NIH	716	600	647	622	589	630	763	720	799
Other HHS	607	424	396	434	361	379	361	463	475
NSF	206	190	206	235	231	246	233	236	261
USDA	NA	NA	NA	13	9	18	25	29	37
All other Federal	757	753	656	613	687	602	635	650	670
Institutional support	9,349	9,825	10,251	10,514	10,947	10,909	11,326	11,801	12,199
Other outside support, total	1,397	1,353	1,379	1,379	1,414	1,281	1,059	1,144	1,142
All other U.S.	1,315	1,282	1,310	1,322	1,344	1,219	995	1,089	1,086
Foreign	82	71	69	57	70	62	64	55	56
Self-support	12,652	13,382	12,416	11,819	12,125	13,255	13,922	15,012	15,250
Social sciences									
Total, all sources	44,375	43,695	42,739	43,040	42,993	43,638	44,016	45,569	48,826
Federal, total	3,229	3,208	2,957	2,943	2,659	2,613	2,677	2,799	2,972
Dept of Defense	267	324	333	202	148	154	167	174	201
Dept of HHS, total	444	351	322	321	304	324	318	313	314
NIH	207	212	211	197	202	209	207	201	210
Other HHS	237	139	111	124	102	115	111	112	104
NSF	348	339	301	336	365	364	382	424	460
USDA	NA	NA	NA	389	317	335	297	321	325
All other Federal	2,170	2,194	2,001	1,695	1,525	1,436	1,513	1,567	1,672
Institutional support	18,407	18,275	18,638	18,727	19,258	20,188	21,128	22,037	23,522
Other outside support, total	4,125	4,079	3,507	3,375	3,467	3,491	3,306	3,311	3,200
All other U.S.	1,767	1,772	1,594	1,624	1,719	1,743	1,743	1,837	1,718
Foreign	2,358	2,307	1,913	1,751	1,748	1,620	1,563	1,474	1,482
Self-support	18,614	18,133	17,637	17,995	17,609	17,346	16,905	17,422	19,132

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-37. Full-time science and engineering graduate students in all institutions by field and source of major support: 1982-90

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Field and source of major support	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Engineering									
Total, all sources	50,233	54,321	55,528	56,283	60,708	62,167	63,400	64,716	66,547
Federal, total	11,095	11,985	11,590	11,267	12,379	13,120	14,020	14,345	14,907
Dept of Defense	3,455	4,014	3,808	3,774	4,115	4,585	4,970	4,808	4,616
Dept of HHS, total	505	575	544	524	536	629	628	729	796
NIH	403	477	466	455	449	515	555	644	674
Other HHS	102	98	78	69	87	114	73	85	122
NSF	2,573	2,681	2,697	2,687	3,130	3,480	3,808	3,766	3,872
USDA	NA	NA	NA	164	194	256	197	210	293
All other Federal	4,562	4,715	4,541	4,118	4,404	4,170	4,417	4,832	5,330
Institutional support	15,565	16,461	17,508	18,525	20,406	21,428	21,629	22,803	23,272
Other outside support, total	7,855	8,205	8,751	9,681	10,239	9,777	10,083	10,062	10,470
All other U.S.	2,339	2,764	6,496	7,467	8,029	7,710	8,060	8,006	8,396
Foreign	5,516	5,441	2,255	2,214	2,210	2,067	2,023	2,056	2,074
Self-support	15,718	17,670	17,679	16,810	17,684	17,842	17,668	17,506	17,898
Chemical engineering									
Total, all sources	5,608	5,869	5,734	5,546	5,594	5,674	5,359	5,282	5,653
Federal, total	1,282	1,361	1,315	1,289	1,394	1,501	1,452	1,476	1,558
Dept of Defense	52	53	92	90	101	150	145	130	98
Dept of HHS, total	39	41	60	53	69	78	83	87	122
NIH	13	12	7	2	6	8	79	87	120
Other HHS	547	602	606	622	652	692	683	654	682
NSF	NA	NA	NA	9	6	24	7	13	39
USDA	607	607	550	515	566	557	534	592	637
All other Federal	1,956	2,056	2,038	2,022	2,048	2,055	2,021	1,959	2,096
Institutional support	1,215	1,255	1,355	1,356	1,314	1,340	1,287	1,290	1,258
Other outside support, total	1,038	1,058	1,202	1,207	1,185	1,212	1,174	1,196	1,159
All other U.S.	177	197	153	149	129	128	113	94	99
Foreign	1,155	1,197	1,026	879	838	778	599	557	541
Self-support									
Civil engineering									
Total, all sources	9,762	10,185	10,455	10,092	10,352	9,857	10,157	10,183	10,445
Federal, total	1,334	1,347	1,354	1,310	1,371	1,432	1,512	1,403	1,527
Dept of Defense	155	166	224	256	250	277	327	280	235
Dept of HHS, total	26	26	8	18	28	12	5	18	15
NIH	18	16	8	9	18	8	3	16	11
Other HHS	8	10	0	9	4	2	2	2	4
NSF	383	371	371	356	391	462	420	382	431
USDA	NA	NA	NA	6	23	37	37	33	36
All other Federal	770	784	751	674	679	644	723	690	810
Institutional support	2,888	3,007	3,097	3,270	3,690	3,642	3,893	3,972	3,918
Other outside support, total	1,206	1,350	1,364	1,329	1,273	1,118	1,128	1,210	1,267
All other U.S.	678	816	878	890	824	706	709	729	833
Foreign	528	534	486	439	449	412	419	481	434
Self-support	4,334	4,481	4,640	4,183	4,018	3,665	3,624	3,598	3,733
Electrical engineering									
Total, all sources	11,533	13,203	13,057	14,752	16,322	17,040	17,653	18,396	18,710
Federal, total	2,671	2,961	2,757	2,391	2,794	3,051	3,499	3,570	3,686
Dept of Defense	1,431	1,704	1,556	1,298	1,415	1,582	1,665	1,648	1,543
Dept of HHS, total	86	103	95	81	80	88	124	93	129
NIH	59	77	75	62	37	36	99	73	85
Other HHS	27	26	20	19	23	32	25	20	44
NSF	612	639	598	556	757	848	1,140	1,085	1,125
USDA	NA	NA	NA	5	4	15	17	20	66
All other Federal	542	515	508	451	538	518	553	724	823
Institutional support	3,621	3,900	4,355	4,933	5,201	5,563	5,648	6,260	6,304
Other outside support, total	1,726	1,962	2,249	2,431	2,155	2,760	2,807	2,856	2,959
All other U.S.	1,296	1,466	1,716	1,848	2,533	2,183	2,361	2,366	2,429
Foreign	430	496	533	583	622	577	446	490	530
Self-support	3,515	4,380	4,696	4,997	5,172	5,666	5,699	5,710	5,761
Industrial engineering									
Total, all sources	3,831	3,334	3,438	3,530	3,886	4,255	4,399	4,760	4,966
Federal, total	357	423	412	396	378	470	557	589	653
Dept of Defense	147	144	133	187	148	213	283	288	308
Dept of HHS, total	53	50	49	45	45	44	39	59	60
NIH	23	25	30	30	14	23	22	25	27
Other HHS	30	19	24	15	31	21	17	34	33
NSF	36	41	56	42	80	97	114	125	128
USDA	NA	NA	NA	1	1	1	1	0	1
All other Federal	121	188	174	121	104	115	120	117	156
Institutional support	1,249	1,055	1,143	1,232	1,345	1,513	1,482	1,666	1,712
Other outside support, total	438	328	380	449	449	452	508	537	575
All other U.S.	193	174	264	316	360	370	396	388	417
Foreign	245	154	116	110	89	82	112	149	158
Self-support	1,787	1,528	1,503	1,476	1,714	1,820	1,852	1,968	2,026

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-37. Full-time science and engineering graduate students in all institutions by field and source of major support: 1982-90

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Field and source of major support	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Mechanical engineering									
Total, all sources	7,267	8,330	8,698	8,875	9,801	10,175	10,438	10,426	10,843
Federal, total	1,415	1,564	1,650	1,907	2,048	2,264	2,435	2,485	2,567
Dept of Defense	289	393	382	540	633	770	819	840	755
Dept of HHS, total	65	73	64	89	61	84	70	61	73
NIH	54	65	58	72	52	67	65	54	72
Other HHS	11	8	6	17	9	17	5	7	1
NSF	307	352	391	439	477	591	661	632	645
USDA	NA	NA	NA	19	10	15	16	28	26
All other Federal	754	746	813	820	867	804	869	924	1,068
Institutional support	2,471	2,869	3,126	3,133	3,688	3,845	3,787	3,858	4,033
Other outside support, total	1,110	1,184	1,273	1,607	1,510	1,494	1,543	1,371	1,668
All other U.S.	855	872	957	1,354	1,255	1,278	1,310	1,334	1,396
Foreign	255	312	316	253	255	216	233	237	272
Self-support	2,271	2,713	2,649	2,228	2,555	2,572	2,673	2,512	2,575
Other engineering									
Total, all sources	12,232	13,400	13,346	13,488	14,753	15,166	15,394	15,669	16,130
Federal, total	4,036	4,329	4,102	3,974	4,394	4,402	4,565	4,822	4,916
Dept of Defense	1,357	1,508	1,421	1,403	1,568	1,593	1,731	1,622	1,677
Dept of HHS, total	223	270	261	238	253	323	307	411	397
NIH	210	247	240	230	241	291	287	389	359
Other HHS	13	23	21	8	12	32	20	22	38
NSF	688	676	675	672	773	790	790	888	861
USDA	NA	NA	NA	124	150	164	119	116	125
All other Federal	1,768	1,875	1,745	1,537	1,650	1,532	1,618	1,785	1,856
Institutional support	3,380	3,574	3,749	3,935	4,434	4,810	4,798	5,088	5,209
Other outside support, total	2,160	2,126	2,130	2,532	2,538	2,613	2,810	2,598	2,743
All other U.S.	1,279	1,378	1,479	1,852	1,872	1,961	2,110	1,993	2,162
Foreign	881	748	651	680	666	652	700	605	581
Self-support	2,656	3,371	3,365	3,047	3,387	3,341	3,221	3,161	3,262
Total, health fields									
Total, all sources	23,276	23,008	23,248	23,727	23,761	24,438	25,216	26,578	28,215
Federal, total	6,444	5,760	5,894	6,275	6,137	6,506	6,405	6,696	6,988
Dept of Defense	196	260	278	280	232	238	244	440	459
Dept of HHS, total	4,867	4,233	4,241	4,666	4,554	4,624	4,673	4,667	4,970
NIH	1,261	1,194	1,040	1,059	1,128	1,475	1,415	1,500	1,614
Other HHS	3,606	3,039	3,201	3,607	3,426	3,149	3,258	3,167	3,356
NSF	34	30	41	41	42	47	46	50	55
USDA	NA	NA	NA	24	42	48	31	46	58
All other Federal	1,347	1,237	1,334	1,264	1,268	1,549	1,411	1,493	1,446
Institutional support	4,975	5,026	5,421	5,709	5,938	5,982	6,351	6,959	7,348
Other outside support, total	1,353	1,622	1,642	1,669	1,586	1,534	1,300	1,440	1,421
All other U.S.	909	1,132	1,141	1,137	1,049	1,014	898	945	941
Foreign	444	490	501	532	537	520	402	495	480
Self-support	10,504	10,600	10,291	10,074	10,100	10,416	11,160	11,483	12,458

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-38. Full-time science and engineering graduate students supported by Federal sources in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	47,583	47,898	47,912	49,220	51,524	53,708	55,684	57,899	59,863
Total, science/engineering fields	41,139	42,138	42,018	42,945	45,387	47,202	49,279	51,203	52,875
Engineering, total	11,095	11,985	11,590	11,267	12,379	13,120	14,020	14,345	14,907
Aerospace	760	878	847	871	967	993	1,042	1,129	1,137
Agricultural	135	145	147	212	184	218	141	152	142
Biomedical	229	252	259	241	331	347	351	474	508
Chemical	1,282	1,361	1,315	1,289	1,394	1,501	1,452	1,476	1,558
Civil	1,334	1,347	1,354	1,310	1,371	1,432	1,512	1,403	1,527
Electrical	2,671	2,961	2,757	2,391	2,794	3,051	3,499	3,570	3,686
Engineering science	598	679	568	465	454	456	547	428	436
Industrial	357	423	412	396	378	470	557	589	653
Mechanical	1,415	1,564	1,650	1,907	2,048	2,264	2,435	2,485	2,567
Metallurgical/materials	1,147	1,198	1,164	1,219	1,389	1,304	1,366	1,516	1,484
Mining	102	86	97	91	120	125	126	90	92
Nuclear	299	364	344	311	323	307	358	402	382
Petroleum	58	46	64	47	40	72	43	25	29
Engineering, n.e.c.	708	681	612	517	586	580	591	606	706
Sciences, total	30,044	30,153	30,428	31,678	33,008	34,082	35,259	36,858	37,968
Physical sciences	7,713	8,126	8,640	8,821	9,523	9,717	9,857	10,247	10,333
Astronomy	218	255	267	303	323	293	318	337	328
Chemistry	4,319	4,426	4,609	4,757	5,104	5,137	5,180	5,329	5,374
Physics	3,171	3,429	3,731	3,729	4,075	4,238	4,338	4,563	4,596
Physical sciences, n.e.c.	5	19	33	32	21	49	21	18	35
Earth, atmospheric, and ocean sciences	2,854	2,874	2,848	2,960	3,033	2,868	2,799	2,863	2,939
Atmospheric sciences	485	492	495	571	546	556	525	491	550
Geosciences	1,407	1,501	1,450	1,498	1,494	1,326	1,311	1,397	1,376
Oceanography	685	659	692	692	765	796	722	751	790
Earth, atmos., and ocean sci., n.e.c.	277	222	211	199	228	190	241	224	223
Mathematical sciences	818	760	762	935	999	1,090	1,190	1,211	1,346
Computer sciences	1,075	1,130	1,269	1,638	1,892	2,084	2,226	2,361	2,444
Agricultural sciences	1,671	1,545	1,395	1,539	1,638	1,699	1,742	1,773	1,722
Biological sciences	10,270	10,369	10,495	10,785	11,229	11,959	12,595	13,389	13,811
Anatomy	192	195	188	186	165	207	225	247	254
Biochemistry	1,869	1,984	2,020	2,110	2,181	2,199	2,375	2,408	2,427
Biology	1,726	1,684	1,683	1,552	1,640	1,701	1,739	1,942	1,932
Biometry/epidemiology	346	340	297	354	331	466	471	472	493
Biophysics	210	233	231	237	269	285	305	332	346
Botany	575	517	541	499	518	549	560	537	561
Cell biology	644	619	664	730	889	969	1,122	1,231	1,317
Ecology	157	163	139	133	138	117	103	135	136
Entomology/parasitology	265	263	229	262	219	274	277	229	261
Genetics	375	407	406	408	475	474	485	513	557
Microbiology	1,167	1,237	1,311	1,349	1,428	1,580	1,684	1,811	1,839
Nutrition	548	476	465	540	537	566	527	551	492
Pathology	316	338	350	356	350	337	323	350	352
Pharmacology	797	811	795	867	891	866	939	1,053	1,058
Physiology	537	503	578	580	568	578	623	602	636
Zoology	303	272	261	239	210	290	280	342	328
Biosciences, n.e.c.	243	327	337	383	420	501	557	634	822
Psychology	2,414	2,141	2,062	2,057	2,035	2,052	2,173	2,215	2,401
Social sciences	3,229	3,208	2,957	2,943	2,659	2,613	2,677	2,799	2,972
Agricultural economics	396	446	434	499	469	466	466	446	435
Anthropology	333	293	258	270	291	284	285	299	307
Economics (except agricultural)	304	303	256	319	278	281	309	355	359
Geography	127	101	138	142	154	167	180	182	191
History and philosophy of science	11	12	12	15	18	21	24	37	25
Linguistics	239	296	183	162	155	129	76	94	140
Political science	888	868	795	632	560	530	623	652	650
Sociology	455	378	361	411	388	371	387	376	413
Sociology/anthropology	30	32	29	48	38	33	41	32	21
Social sciences, n.e.c.	446	479	491	445	308	331	286	326	431
Total, health fields	6,444	5,760	5,894	6,275	6,137	6,506	6,405	6,696	6,988
Dentistry	76	67	72	94	103	76	80	82	82
Neurology	114	132	190	199	214	265	341	351	392
Nursing	3,305	2,921	2,795	3,036	2,924	2,774	2,703	2,562	2,707
Pharmaceutical sciences	292	243	270	260	266	293	280	341	307
Preventive medicine/community health	1,163	947	1,025	1,038	985	1,144	1,046	1,118	1,128
Speech pathology/audiology	666	621	681	628	597	672	716	749	834
Veterinary sciences	65	64	65	92	92	120	112	114	128
Clinical medicine, n.e.c.	338	375	294	294	308	351	408	479	492
Health related, n.e.c.	425	390	502	634	648	815	723	902	918

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-39. Full-time science and engineering graduate students supported by institutional sources in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	95,558	98,544	102,562	104,623	109,742	112,744	115,457	119,853	123,455
Total, science/engineering fields	90,583	93,518	97,141	98,914	103,804	106,762	109,106	112,894	116,107
Engineering, total	15,565	16,461	17,508	18,525	20,406	21,428	21,629	22,803	23,272
Aerospace	347	420	433	536	557	640	640	790	932
Agricultural	290	342	334	264	360	358	379	358	339
Biomedical	263	264	347	376	410	441	535	469	529
Chemical	1,956	2,056	2,038	2,022	2,048	2,055	2,021	1,959	2,096
Civil	2,888	3,007	3,097	3,270	3,690	3,642	3,893	3,972	3,918
Electrical	3,621	3,900	4,355	4,933	5,201	5,563	5,648	6,260	6,304
Engineering science	391	394	422	430	468	481	471	471	492
Industrial	1,249	1,058	1,143	1,232	1,345	1,513	1,482	1,666	1,712
Mechanical	2,471	2,869	3,126	3,133	3,688	3,845	3,787	3,858	4,033
Metalurgical/materials	557	561	590	663	791	924	876	949	923
Mining	97	137	134	128	129	141	111	138	130
Nuclear	281	280	307	323	357	315	322	334	325
Petroleum	121	177	173	178	184	249	255	282	275
Engineering, n.e.c.	1,033	999	1,009	1,064	1,178	1,261	1,273	1,297	1,234
Sciences, total	75,018	77,057	79,633	80,389	83,398	85,334	87,477	90,091	92,835
Physical sciences	13,001	13,601	13,701	13,962	14,417	14,821	14,860	15,138	15,239
Astronomy	290	278	276	276	275	314	327	366	404
Chemistry	8,018	8,632	8,558	8,603	8,706	9,025	8,894	8,971	8,934
Physics	4,640	4,646	4,826	5,042	5,385	5,440	5,595	5,754	5,858
Physical sciences, n.e.c.	53	45	41	41	51	42	44	47	43
Earth, atmospheric, and ocean sciences	4,254	4,261	4,381	4,160	4,380	4,226	4,336	4,353	4,270
Atmospheric sciences	129	152	147	120	126	120	184	174	142
Geosciences	3,158	3,194	3,274	3,142	3,147	2,911	2,932	2,816	2,775
Oceanography	426	386	445	448	533	561	628	735	695
Earth, atmos., and ocean sci., n.e.c.	541	529	515	450	574	634	592	628	658
Mathematical sciences	7,159	7,493	7,767	8,111	8,485	8,836	9,136	9,390	9,480
Computer sciences	2,724	3,216	3,691	4,308	4,573	5,000	5,162	5,337	5,592
Agricultural sciences	3,514	3,645	3,929	3,449	3,599	3,565	3,446	3,400	3,425
Biological sciences	16,610	16,741	17,275	17,158	17,739	17,789	18,083	18,635	19,108
Anatomy	527	510	514	533	556	556	588	590	523
Biochemistry	1,382	1,440	1,618	1,706	1,821	1,786	1,743	1,830	1,865
Biology	4,782	4,857	4,944	4,878	4,836	4,888	5,022	5,264	5,352
Biometry/epidemiology	251	201	174	233	318	314	307	285	319
Biophysics	105	99	110	84	115	108	145	146	152
Botany	1,661	1,625	1,576	1,449	1,484	1,351	1,314	1,318	1,259
Cell biology	377	379	397	442	518	681	686	707	868
Ecology	444	435	490	502	518	493	538	564	547
Entomology/parasitology	616	607	655	569	626	489	494	476	485
Genetics	321	302	315	354	434	478	418	478	504
Microbiology	1,543	1,638	1,676	1,709	1,696	1,708	1,827	1,881	1,907
Nutrition	954	951	1,029	1,010	983	1,005	929	921	1,021
Pathology	318	339	391	349	399	446	476	468	475
Pharmacology	730	763	784	787	747	808	804	820	922
Physiology	746	779	821	862	875	878	916	1,033	1,006
Zoology	1,440	1,348	1,261	1,201	1,232	1,239	1,201	1,182	1,113
Biosciences, n.e.c.	393	468	520	490	528	582	675	672	790
Psychology	9,349	9,825	10,251	10,514	10,947	10,909	11,326	11,801	12,199
Social sciences	18,407	18,275	18,638	18,727	19,258	20,188	21,128	22,037	23,522
Agricultural economics	718	638	701	692	730	641	705	755	788
Anthropology	1,696	1,654	1,774	1,728	1,880	1,925	2,030	2,097	2,289
Economics (except agricultural)	4,562	4,548	4,504	4,542	4,609	4,752	4,796	5,048	5,111
Geography	1,225	1,213	1,207	1,186	1,241	1,280	1,268	1,423	1,597
History and philosophy of science	136	125	144	139	161	166	170	190	229
Linguistics	988	1,016	1,056	996	982	1,052	1,199	1,222	1,287
Political science	4,648	4,666	4,717	4,871	5,037	5,235	5,655	5,884	6,567
Sociology	2,550	2,530	2,583	2,547	2,557	2,761	2,889	3,010	3,229
Sociology/anthropology	345	323	318	304	346	319	333	396	429
Social sciences, n.e.c.	1,539	1,562	1,634	1,722	1,715	2,057	2,083	2,012	2,096
Total, health fields	4,975	5,026	5,421	5,709	5,938	5,982	6,351	6,959	7,348
Dentistry	297	278	309	287	303	361	380	407	407
Neurology	52	83	82	90	129	164	195	259	318
Nursing	641	796	873	699	762	729	947	974	947
Pharmaceutical sciences	861	799	811	827	946	894	986	1,017	1,071
Preventive medicine/community health	557	529	602	685	789	809	717	747	891
Speech pathology/audiology	1,455	1,464	1,479	1,627	1,529	1,473	1,541	1,680	1,728
Veterinary sciences	178	189	229	293	296	332	348	399	424
Clinical medicine, n.e.c.	376	302	315	450	413	435	403	442	447
Health related, n.e.c.	558	586	721	751	771	785	834	1,034	1,115

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-40. Full-time science and engineering graduate students supported by other outside sources in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	24,256	24,951	24,910	26,678	26,848	25,591	25,857	26,011	26,472
Total, science/engineering fields	22,903	23,329	23,268	25,009	25,262	24,057	24,557	24,571	25,051
Engineering, total	7,855	8,205	8,751	9,681	10,239	9,777	10,083	10,062	10,470
Aerospace	203	235	216	275	295	278	336	311	334
Agricultural	189	146	167	161	197	188	240	189	198
Biomedical	119	101	160	164	170	232	191	243	323
Chemical	1,215	1,255	1,355	1,356	1,314	1,340	1,287	1,290	1,258
Civil	1,206	1,350	1,364	1,329	1,273	1,118	1,128	1,210	1,267
Electrical	1,726	1,962	2,249	2,431	3,155	2,760	2,807	2,856	2,959
Engineering science	124	141	138	280	284	258	287	210	226
Industrial	438	328	380	426	449	452	508	537	575
Mechanical	1,110	1,184	1,273	1,607	1,510	1,494	1,543	1,571	1,668
Metallurgical/materials	513	586	674	784	731	710	797	828	901
Mining	111	102	92	98	98	75	85	63	34
Nuclear	257	209	202	227	237	272	255	252	242
Petroleum	188	185	158	192	177	198	205	137	106
Engineering, n.e.c.	456	421	323	351	349	402	414	365	379
Sciences, total	15,048	15,124	14,517	15,328	15,023	14,280	14,474	14,509	14,581
Physical sciences	1,785	1,705	1,830	2,091	1,931	1,873	1,980	2,019	2,009
Astronomy	45	27	28	37	30	40	23	22	18
Chemistry	1,240	1,093	1,173	1,316	1,277	1,184	1,200	1,295	1,279
Physics	497	580	625	719	611	633	742	698	703
Physical sciences, n.e.c.	3	5	4	19	13	16	15	4	9
Earth, atmospheric, and ocean sciences	1,220	1,293	1,259	1,401	1,186	1,006	1,043	1,004	981
Atmospheric sciences	51	60	71	81	76	55	54	65	61
Geosciences	838	899	841	925	796	650	691	668	635
Oceanography	172	204	192	168	123	114	122	147	136
Earth, atmos., and ocean sci., n.e.c.	159	130	155	227	191	187	176	124	149
Mathematical sciences	544	511	632	549	598	548	617	604	562
Computer sciences	799	834	818	1,378	1,554	1,283	1,300	1,265	1,301
Agricultural sciences	2,046	2,111	1,955	1,875	1,774	1,595	1,684	1,628	1,737
Biological sciences	3,132	3,238	3,137	3,280	3,099	3,203	3,485	3,534	3,649
Anatomy	36	48	54	42	56	46	36	50	34
Biochemistry	285	335	339	391	364	349	372	423	421
Biology	375	424	426	389	402	407	432	394	465
Biometry/epidemiology	96	107	89	88	101	130	121	121	92
Biophysics	22	25	18	12	86	31	83	78	78
Botany	491	470	482	492	417	412	435	424	396
Cell biology	49	86	81	120	122	144	130	154	194
Ecology	101	61	74	73	69	72	78	86	86
Entomology/parasitology	276	255	202	172	151	156	147	159	149
Genetics	85	80	68	123	101	115	131	137	131
Microbiology	305	283	316	373	322	351	410	367	328
Nutrition	459	477	416	419	441	445	504	485	589
Pathology	139	142	114	114	115	127	136	105	123
Pharmacology	170	187	194	211	201	190	215	237	213
Physiology	91	93	127	124	93	94	115	119	138
Zoology	98	113	99	79	85	74	63	73	86
Biosciences, n.e.c.	54	52	38	58	47	82	126	145	126
Psychology	1,397	1,353	1,379	1,379	1,414	1,281	1,059	1,144	1,142
Social sciences	4,125	4,079	3,507	3,375	3,467	3,491	3,306	3,311	3,200
Agricultural economics	372	377	353	309	300	329	294	350	310
Anthropology	137	177	155	189	149	155	170	162	220
Economics (except agricultural)	984	1,048	948	926	865	795	846	737	729
Geography	157	162	96	126	113	92	93	88	72
History and philosophy of science	16	22	13	13	11	30	16	18	28
Linguistics	192	303	320	281	323	257	237	204	186
Political science	1,463	1,191	891	853	963	1,051	1,004	1,049	986
Sociology	397	394	381	331	375	398	327	339	326
Sociology/anthropology	46	53	40	46	19	28	37	43	41
Social sciences, n.e.c.	361	352	310	301	349	356	282	321	302
Total, health fields	1,353	1,622	1,642	1,669	1,586	1,534	1,300	1,440	1,421
Dentistry	62	59	52	39	37	29	22	26	20
Neurology	20	37	26	18	18	36	39	55	58
Nursing	207	261	364	333	244	237	151	144	139
Pharmaceutical sciences	233	322	298	297	290	307	296	354	370
Preventive medicine/community health ...	306	383	370	423	476	467	316	386	376
Speech pathology/audiology	179	190	170	182	151	113	149	144	111
Veterinary sciences	64	59	74	55	64	78	77	81	97
Clinical medicine, n.e.c.	97	120	96	128	104	100	97	77	69
Health related, n.e.c.	185	191	192	194	202	167	153	173	181

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-41. Self-supported full-time science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	78,649	82,185	80,046	78,799	80,071	81,047	80,861	82,226	86,046
Total, science/engineering fields	68,145	71,585	69,755	68,725	69,971	70,631	69,701	70,743	73,588
Engineering, total	15,718	17,670	17,679	16,810	17,684	17,842	17,648	17,506	17,898
Aerospace	212	307	358	312	335	461	515	542	607
Agricultural	125	133	125	130	140	160	119	152	114
Biomedical	320	414	355	348	383	372	378	425	438
Chemical	1,155	1,197	1,026	879	838	778	599	557	541
Civil	4,334	4,481	4,640	4,183	4,018	3,665	3,624	3,598	3,733
Electrical	3,515	4,380	4,496	4,997	5,172	5,666	5,699	5,710	5,761
Engineering science	164	142	144	116	239	191	171	150	178
Industrial	1,787	1,528	1,503	1,476	1,714	1,820	1,852	1,968	2,026
Mechanical	2,271	2,713	2,649	2,228	2,555	2,572	2,673	2,512	2,575
Metallurgical/materials	261	359	444	422	436	459	382	392	510
Mining	63	103	101	74	95	94	93	47	78
Nuclear	205	199	165	169	142	150	170	124	131
Petroleum	109	212	219	160	171	125	118	62	74
Engineering, n.e.c.	1,197	1,502	1,454	1,316	1,446	1,329	1,275	1,267	1,132
Sciences, total	52,427	53,915	52,076	51,915	52,287	52,789	52,033	53,237	55,690
Physical sciences	1,541	1,773	1,681	1,795	1,893	2,003	1,877	1,789	1,992
Astronomy	37	25	25	19	26	34	37	37	40
Chemistry	710	872	783	904	910	889	814	662	803
Physics	764	843	782	797	886	993	963	1,025	1,065
Physical sciences, n.e.c.	30	33	91	75	71	87	63	65	84
Earth, atmospheric, and ocean sciences	3,108	3,621	3,331	2,918	2,724	2,443	2,118	1,918	2,105
Atmospheric sciences	114	81	63	100	107	93	66	80	75
Geosciences	2,118	2,609	2,528	2,138	1,947	1,779	1,380	1,105	1,022
Oceanography	310	363	270	254	273	180	157	166	232
Earth, atmos., and ocean sci., n.e.c.	566	568	470	426	397	391	515	567	776
Mathematical sciences	2,302	2,200	2,158	2,238	2,316	2,575	2,580	2,500	2,482
Computer sciences	4,573	5,507	5,809	6,777	7,291	7,205	6,908	7,045	7,535
Agricultural sciences	2,660	2,535	2,471	2,234	2,218	2,124	2,114	2,125	2,077
Biological sciences	6,977	6,764	6,573	6,139	6,111	5,838	5,609	5,426	5,117
Anatomy	182	168	180	130	116	120	124	112	111
Biochemistry	314	248	286	298	298	305	278	224	223
Biology	2,161	2,045	1,918	1,712	1,699	1,689	1,690	1,733	1,591
Biometry/epidemiology	226	229	191	321	320	316	336	370	360
Biophysics	86	80	60	48	34	34	63	39	29
Botany	442	431	394	396	464	400	376	309	255
Cell biology	40	54	67	114	73	92	85	105	136
Ecology	208	185	174	168	132	117	123	102	121
Entomology/parasitology	183	180	178	135	111	143	143	145	120
Genetics	143	175	197	172	161	162	153	155	125
Microbiology	502	546	523	448	425	380	388	260	291
Nutrition	1,159	1,084	1,108	1,071	1,094	998	916	917	818
Pathology	248	249	228	217	206	225	191	237	194
Pharmacology	223	243	225	199	197	140	112	111	101
Physiology	431	391	443	420	469	446	354	303	336
Zoology	295	319	242	199	193	184	175	177	156
Biosciences, n.e.c.	134	137	159	108	115	87	102	117	150
Psychology	12,652	13,382	12,416	11,819	12,125	13,255	13,922	15,012	15,250
Social sciences	18,614	18,133	17,637	17,995	17,609	17,346	16,905	17,422	19,132
Agricultural economics	492	586	539	490	465	421	444	361	428
Anthropology	1,939	1,816	1,781	1,719	1,731	1,734	1,781	1,853	1,925
Economics (except agricultural)	3,629	3,316	3,116	3,188	3,251	3,201	3,121	3,007	3,047
Geography	630	726	734	670	600	751	674	665	769
History and philosophy of science	60	70	74	60	47	50	56	58	58
Linguistics	738	760	760	898	898	1,011	1,008	948	973
Political science	6,694	6,718	6,395	6,815	6,850	6,191	6,090	6,479	7,269
Sociology	1,473	1,492	1,420	1,355	1,275	1,496	1,479	1,544	1,711
Sociology/anthropology	236	263	219	167	181	180	155	162	291
Social sciences, n.e.c.	2,723	2,386	2,599	2,633	2,311	2,311	2,097	2,345	2,661
Total, health fields	10,504	10,600	10,291	10,074	10,100	10,416	11,160	11,483	12,458
Dentistry	292	297	335	325	382	447	452	346	331
Neurology	16	6	15	28	12	10	15	20	20
Nursing	2,459	2,226	2,081	1,977	1,948	2,184	2,223	2,307	2,333
Pharmaceutical sciences	317	333	320	334	261	253	267	324	389
Preventive medicine/community health	2,030	2,102	1,958	1,991	1,829	1,742	2,138	1,955	2,105
Speech pathology/audiology	3,053	3,005	2,962	3,039	3,118	2,831	2,909	3,149	3,167
Veterinary sciences	71	51	57	75	54	62	69	74	60
Clinical medicine, n.e.c.	265	292	334	288	322	324	362	368	423
Health related, n.e.c.	2,001	2,288	2,229	2,017	2,174	2,563	2,725	2,940	3,630

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-42. Full-time science and engineering graduate students in all institutions by field and type of major support: 1982-90

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Field and type of major support	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields									
Total, all types	246,046	253,578	255,430	259,320	268,185	273,090	277,859	285,989	295,836
Fellowships	21,018	21,512	21,774	22,771	23,160	22,271	22,756	23,847	25,642
Traineeships	14,740	13,600	13,537	13,758	13,613	14,114	14,410	14,615	15,204
Research assistantships	52,681	55,051	57,845	61,137	66,193	70,303	74,645	79,216	81,038
Teaching assistantships	58,386	60,168	61,378	61,990	62,706	62,989	63,338	64,550	65,058
Other types of support	99,221	103,247	100,896	99,664	102,513	103,413	102,710	103,761	108,894
Sciences, total									
Total, all types	172,537	176,249	176,654	179,310	183,716	186,485	189,243	194,695	201,074
Fellowships	14,899	15,194	15,409	16,206	16,625	15,983	16,797	17,383	18,662
Traineeships	8,322	7,998	7,876	8,860	7,681	8,241	8,506	8,730	9,030
Research assistantships	36,365	37,758	39,620	40,944	43,296	45,472	48,270	51,402	52,258
Teaching assistantships	46,958	47,971	48,535	48,969	49,234	49,602	49,926	51,044	51,638
Other types of support	65,993	67,328	65,214	65,331	66,880	67,187	65,744	66,136	69,486
Physical sciences									
Total, all types	24,040	25,205	25,852	26,669	27,764	28,414	28,574	29,193	29,573
Fellowships	1,904	1,929	2,091	1,929	1,895	1,847	1,821	1,992	2,289
Traineeships	433	399	357	418	524	541	502	599	696
Research assistantships	8,768	9,145	9,628	10,284	10,994	11,558	12,056	12,426	12,137
Teaching assistantships	10,711	11,270	11,339	11,467	11,654	11,752	11,600	11,726	11,821
Other types of support	2,224	2,462	2,437	2,571	2,697	2,716	2,595	2,450	2,631
Earth, atmospheric, and ocean sciences									
Total, all types	11,436	12,049	11,819	11,439	11,323	10,543	10,296	10,138	10,295
Fellowships	892	880	962	982	846	741	778	770	791
Traineeships	263	272	178	176	149	176	148	112	104
Research assistantships	3,339	3,545	3,574	3,723	3,834	3,660	3,891	4,164	4,171
Teaching assistantships	2,849	2,881	2,865	2,647	2,659	2,498	2,553	2,455	2,387
Other types of support	4,093	4,471	4,240	3,911	3,835	3,468	2,926	2,637	2,842
Mathematical sciences									
Total, all types	10,823	10,964	11,319	11,833	12,398	13,049	13,523	13,705	13,870
Fellowships	687	694	766	857	909	859	940	1,001	1,103
Traineeships	126	124	159	149	128	158	204	212	189
Research assistantships	845	803	872	998	1,038	1,111	1,227	1,305	1,417
Teaching assistantships	6,074	6,445	6,624	6,814	7,154	7,461	7,598	7,845	7,803
Other types of support	3,091	2,898	2,898	3,015	3,169	3,460	3,554	3,542	3,358
Computer sciences									
Total, all types	9,171	10,687	11,587	14,101	15,310	15,572	15,596	16,008	16,872
Fellowships	411	488	561	781	830	784	807	871	956
Traineeships	74	50	81	73	114	103	115	134	133
Research assistantships	1,191	1,403	1,635	2,076	2,354	2,837	3,054	3,340	3,341
Teaching assistantships	2,074	2,411	2,748	3,216	3,251	3,404	3,434	3,460	3,653
Other types of support	5,421	6,335	6,562	7,955	8,761	8,444	8,186	8,227	8,789
Agricultural sciences									
Total, all types	9,891	9,836	9,750	9,097	9,229	8,983	8,986	8,926	8,961
Fellowships	578	569	577	584	564	457	431	491	553
Traineeships	225	226	135	115	115	116	120	89	63
Research assistantships	4,592	4,555	4,683	4,347	4,629	4,537	4,453	4,614	4,613
Teaching assistantships	923	900	867	857	782	758	866	785	825
Other types of support	3,573	3,586	3,488	3,194	3,139	3,115	3,116	2,947	2,907
Biological sciences									
Total, all types	36,989	37,112	37,480	37,362	38,178	38,789	39,772	40,984	41,685
Fellowships	3,563	3,636	3,714	4,002	4,286	4,337	4,305	4,612	4,796
Traineeships	4,367	4,370	4,351	4,253	4,203	4,447	4,614	4,689	4,942
Research assistantships	10,039	10,302	11,032	11,353	12,217	13,070	14,259	15,400	15,987
Teaching assistantships	9,746	9,635	9,556	9,471	9,122	8,777	8,655	8,988	8,757
Other types of support	9,274	9,169	8,827	8,283	8,350	8,158	7,939	7,585	7,203
Psychology									
Total, all types	25,812	26,701	26,108	25,769	26,521	27,497	28,480	30,172	30,992
Fellowships	1,232	1,270	1,295	1,277	1,422	1,433	1,538	1,506	1,654
Traineeships	1,794	1,383	1,777	1,602	1,328	1,243	1,243	1,180	1,139
Research assistantships	2,723	2,962	3,027	3,082	3,119	3,231	3,743	3,871	4,089
Teaching assistantships	4,922	5,007	5,048	5,082	5,365	5,377	5,518	5,783	5,808
Other types of support	15,141	16,079	15,261	14,626	15,287	16,213	16,438	17,832	18,302
Social sciences									
Total, all types	44,375	43,695	42,739	43,040	42,993	43,638	44,016	45,569	48,826
Fellowships	5,632	5,728	5,443	5,794	5,873	5,525	6,177	6,164	6,520
Traineeships	1,040	1,174	1,138	1,074	1,120	1,457	1,560	1,715	1,765
Research assistantships	4,868	5,043	5,169	5,081	5,111	5,468	5,587	6,282	6,503
Teaching assistantships	9,659	9,422	9,488	9,315	9,247	9,575	9,702	10,092	10,584
Other types of support	23,176	22,328	21,501	21,776	21,642	21,613	20,990	21,316	23,454

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-42. Full-time science and engineering graduate students in all institutions by field and type of major support: 1982-90

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Field and type of major support	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Engineering, total									
Total, all types	50,233	54,321	55,528	56,283	60,708	62,167	63,400	64,716	66,547
Fellowships	4,693	4,847	4,875	4,811	4,946	4,675	4,488	4,712	5,168
Traineeships	808	755	738	760	836	901	922	982	1,016
Research assistantships	14,701	15,638	16,343	17,963	20,486	22,160	23,459	24,603	25,371
Teaching assistantships	9,206	10,056	10,560	10,772	11,124	11,107	11,176	11,137	11,008
Other types of support	20,825	23,025	23,012	21,977	23,316	23,324	23,355	23,282	23,984
Chemical engineering									
Total, all types	5,608	5,869	5,734	5,546	5,594	5,674	5,359	5,282	5,453
Fellowships	868	878	901	849	823	805	709	656	755
Traineeships	160	141	131	94	108	124	105	145	150
Research assistantships	2,099	2,255	2,329	2,454	2,582	2,745	2,814	2,813	2,842
Teaching assistantships	1,048	1,129	1,121	1,065	1,000	994	954	903	947
Other types of support	1,433	1,466	1,252	1,084	1,081	1,006	777	765	759
Civil engineering									
Total, all types	9,762	10,185	10,455	10,092	10,352	9,857	10,157	10,183	10,445
Fellowships	695	679	572	706	676	521	579	630	626
Traineeships	102	113	135	143	188	208	196	211	214
Research assistantships	2,116	2,345	2,498	2,480	2,859	2,920	3,079	3,042	3,143
Teaching assistantships	1,496	1,490	1,624	1,657	1,743	1,746	1,744	1,711	1,655
Other types of support	5,353	5,558	5,626	5,106	4,886	4,462	4,559	4,589	4,809
Electrical engineering									
Total, all types	11,533	13,203	13,857	14,752	16,322	17,040	17,653	18,396	18,710
Fellowships	1,044	1,062	1,136	1,145	1,178	1,065	1,056	1,218	1,266
Traineeships	119	119	114	148	165	123	140	144	160
Research assistantships	2,950	3,192	3,156	3,677	4,447	5,111	5,722	6,129	6,243
Teaching assistantships	2,588	3,023	3,282	3,310	3,493	3,360	3,379	3,475	3,470
Other types of support	4,832	5,807	6,169	6,472	7,039	7,381	7,356	7,430	7,571
Industrial engineering									
Total, all types	3,831	3,334	3,438	3,530	3,886	4,255	4,399	4,760	4,966
Fellowships	266	180	201	195	196	195	176	211	268
Traineeships	34	14	17	24	17	48	44	43	36
Research assistantships	536	434	564	585	717	944	1,041	1,164	1,159
Teaching assistantships	746	663	718	844	873	805	763	830	871
Other types of support	2,199	2,023	1,941	1,882	2,083	2,263	2,375	2,512	2,632
Mechanical engineering									
Total, all types	7,267	8,330	8,698	8,875	9,801	10,175	10,438	10,426	10,843
Fellowships	598	653	672	627	669	628	553	571	721
Traineeships	110	84	92	129	139	150	179	187	184
Research assistantships	2,213	2,371	2,663	3,280	3,672	3,936	4,076	4,255	4,330
Teaching assistantships	1,667	1,992	2,080	2,082	2,165	2,226	2,290	2,256	2,272
Other types of support	2,679	3,230	3,191	2,757	3,156	3,235	3,340	3,157	3,336
Other engineering									
Total, all types	12,232	13,400	13,346	13,488	14,753	15,166	15,394	15,669	16,130
Fellowships	1,222	1,395	1,393	1,289	1,404	1,461	1,415	1,426	1,532
Traineeships	253	264	252	222	219	248	258	252	274
Research assistantships	4,767	5,041	5,133	5,487	6,209	6,504	6,727	7,200	7,654
Teaching assistantships	1,661	1,759	1,735	1,814	1,850	1,976	2,046	1,962	1,793
Other types of support	4,329	4,941	4,833	4,676	5,071	4,977	4,948	4,829	4,877
Total, health fields									
Total, all types	23,276	23,008	23,248	23,727	23,761	24,438	25,216	26,578	28,215
Fellowships	1,426	1,471	1,490	1,754	1,589	1,613	1,471	1,752	1,812
Traineeships	5,610	4,847	4,923	5,138	5,096	4,972	4,982	4,903	5,158
Research assistantships	1,615	1,655	1,882	2,230	2,411	2,671	2,916	3,211	3,409
Teaching assistantships	2,222	2,141	2,283	2,249	2,348	2,280	2,236	2,369	2,412
Other types of support	12,403	12,894	12,670	12,356	12,317	12,902	13,611	14,343	15,424

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-43. Full-time science and engineering graduate students in all institutions by type and source of major support: 1982-90

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Type and source of major support	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all types									
Total, all sources	246,046	253,578	255,430	259,320	268,185	273,090	277,859	285,989	295,836
Federal, total	47,583	47,898	47,912	49,220	51,524	53,708	55,684	57,899	59,863
Dept of Defense	5,945	7,011	7,151	7,332	7,945	8,801	9,520	9,200	8,816
Dept of HHS, total	15,862	15,020	15,160	15,913	16,430	17,272	18,049	18,839	19,636
NIH	10,844	10,867	11,012	11,142	11,898	12,966	13,792	14,493	15,030
Other HHS	5,018	4,153	4,148	4,771	4,532	4,306	4,257	4,346	4,606
NSF	9,287	9,524	9,853	10,183	10,834	11,247	11,633	11,901	12,016
USDA	NA	NA	NA	2,181	2,347	2,696	2,607	2,745	2,733
All other Federal	16,489	16,343	15,748	13,611	13,968	13,692	13,875	15,214	16,662
Institutional support	99,558	98,544	102,562	104,623	109,742	112,744	115,457	119,853	123,455
Other outside support, total	26,256	24,951	24,910	26,678	26,848	25,591	25,857	26,011	26,472
All other U.S.	15,183	15,960	16,724	18,871	19,144	18,424	18,907	19,305	19,880
Foreign	9,073	8,991	8,186	7,807	7,704	7,167	6,950	6,706	6,592
Self-support	78,649	82,185	80,046	78,799	80,071	81,047	80,861	82,226	86,046
Fellowships									
Total, all sources	21,018	21,512	21,774	22,771	23,160	22,271	22,756	23,847	25,642
Federal, total	4,119	4,136	4,140	4,437	4,607	4,467	4,598	5,239	6,385
Dept of Defense	204	257	240	263	294	366	360	420	583
Dept of HHS, total	839	776	793	878	826	863	880	950	1,076
NIH	629	574	613	635	654	700	703	723	883
Other HHS	210	202	180	243	172	163	177	227	193
NSF	1,306	1,307	1,340	1,399	1,512	1,489	1,588	1,784	2,101
USDA	NA	NA	NA	150	166	151	95	106	110
All other Federal	1,770	1,796	1,767	1,747	1,809	1,598	1,675	1,979	2,515
Institutional support	9,484	9,915	10,424	11,306	11,769	11,682	12,137	12,645	13,332
Other outside support, total	7,415	7,461	7,210	7,028	6,784	6,122	6,021	5,963	5,925
All other U.S.	3,662	3,826	4,016	4,161	4,034	3,718	3,471	3,609	3,695
Foreign	3,753	3,635	3,194	2,867	2,750	2,404	2,550	2,354	2,230
Self-support	0	0	0	0	0	0	0	0	0
Traineeships									
Total, all sources	14,740	13,600	13,537	13,758	13,613	14,114	14,410	14,615	15,204
Federal, total	10,166	9,178	9,031	9,036	8,768	9,020	8,760	8,848	9,366
Dept of Defense	34	84	62	49	79	137	136	118	124
Dept of HHS, total	8,746	7,713	7,550	7,665	7,425	7,374	7,294	7,172	7,603
NIH	4,666	4,497	4,297	4,094	3,942	4,244	4,125	4,099	4,376
Other HHS	4,080	3,216	3,253	3,571	3,483	3,130	3,169	3,073	3,227
NSF	90	61	49	56	27	83	68	89	57
USDA	NA	NA	NA	71	57	87	44	48	57
All other Federal	1,296	1,320	1,370	1,195	1,180	1,339	1,218	1,421	1,528
Institutional support	3,447	3,318	3,515	3,724	3,892	4,182	4,885	4,840	5,022
Other outside support, total	1,127	1,104	991	998	953	912	965	927	816
All other U.S.	817	1,040	718	700	733	656	723	650	578
Foreign	310	364	273	298	220	256	242	277	238
Self-support	0	0	0	0	0	0	0	0	0
Research assistantships									
Total, all sources	52,681	55,051	57,845	61,137	66,193	70,303	74,645	79,216	81,038
Federal, total	28,320	29,171	29,467	30,440	32,758	34,990	36,759	38,510	38,668
Dept of Defense	3,467	3,934	4,081	4,195	4,646	5,603	5,995	5,879	5,312
Dept of HHS, total	5,789	5,998	6,340	6,866	7,684	8,440	9,336	10,227	10,437
NIH	5,280	5,449	5,757	6,113	6,973	7,611	8,552	9,293	9,403
Other HHS	509	549	583	753	711	829	784	934	1,034
NSF	7,751	8,067	8,288	8,559	9,091	9,486	9,820	9,867	9,697
USDA	NA	NA	NA	1,827	1,971	2,336	2,316	2,466	2,439
All other Federal	11,313	11,172	10,758	8,993	9,366	9,125	9,292	10,071	10,583
Institutional support	17,475	18,049	19,759	20,492	23,146	25,079	26,616	28,967	30,363
Other outside support, total	6,886	7,831	8,619	10,205	10,289	10,234	11,270	11,739	12,207
All other U.S.	6,298	7,271	8,020	9,655	9,701	9,626	10,652	11,062	11,479
Foreign	588	560	599	550	588	608	618	677	728
Self-support	0	0	0	0	0	0	0	0	0
Teaching assistantships									
Total, all sources	58,386	60,168	61,378	61,990	62,706	62,989	63,338	64,550	65,058
Federal, total	429	501	405	562	497	447	504	491	618
Dept of Defense	0	0	0	0	0	0	0	0	0
Dept of HHS, total	108	112	73	98	110	153	143	144	121
NIH	49	75	44	59	82	125	118	129	97
Other HHS	59	37	29	39	28	28	25	15	24
NSF	27	25	28	43	75	27	58	66	86
USDA	NA	NA	NA	40	33	17	44	33	44
All other Federal	294	364	304	381	279	250	259	248	367
Institutional support	57,481	59,276	60,536	60,906	61,681	62,061	62,347	63,493	63,908
Other outside support, total	476	391	437	522	528	481	487	566	532
All other U.S.	476	391	437	522	528	481	487	566	532
Foreign	0	0	0	0	0	0	0	0	0
Self-support	0	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-43. Full-time science and engineering graduate students in all institutions by type and source of major support: 1982-90

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Type and source of major support	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Other types of support									
Total, all sources	99,221	103,247	100,896	99,664	102,513	103,413	102,710	103,761	108,894
Federal, total	4,629	4,912	4,869	4,745	4,894	4,784	5,063	4,811	5,028
Dept of Defense	2,240	2,736	2,768	2,825	2,926	2,695	3,029	2,783	2,797
Dept of HHS, total	380	421	404	406	385	442	396	346	399
NIH	220	272	301	241	247	286	294	249	271
Other HHS	160	149	103	165	138	156	102	97	128
NSF	113	64	148	126	129	162	99	95	78
USDA	NA	NA	NA	93	120	105	108	92	83
All other Federal	1,816	1,691	1,549	1,295	1,334	1,380	1,431	1,495	1,669
Institutional support	7,671	7,986	8,328	8,195	9,254	9,740	9,672	9,908	10,830
Other outside support, total	8,352	8,164	7,653	7,925	8,294	7,842	7,114	6,816	6,992
All other U.S.	3,930	3,732	3,533	3,833	4,148	3,943	3,574	3,418	3,596
Foreign	4,422	4,432	4,120	4,092	4,146	3,899	3,540	3,398	3,396
Self-support	78,649	82,185	80,046	78,799	80,071	81,047	80,861	82,226	86,046

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-44. Full-time science and engineering graduate students with U.S. citizenship
in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	188,409	191,391	191,703	190,873	192,821	194,049	193,979	198,912	205,026
Total, science/engineering fields	167,434	170,791	170,798	169,688	171,761	172,372	171,841	175,610	180,360
Engineering, total	28,812	31,450	32,223	32,127	33,597	34,063	33,783	34,272	35,211
Aerospace	945	1,088	1,115	1,258	1,353	1,559	1,502	1,757	1,920
Agricultural	398	425	446	414	457	478	406	361	332
Biomedical	732	836	901	935	1,014	1,016	1,024	1,035	1,203
Chemical	3,267	3,630	3,603	3,337	3,412	3,362	2,967	2,677	2,702
Civil	5,714	5,820	5,948	5,568	5,572	5,240	5,359	5,251	5,585
Electrical	6,421	7,363	7,861	8,113	8,609	8,959	9,274	9,693	9,770
Engineering science	2,837	861	798	795	854	791	812	702	784
Industrial	2,205	1,962	1,967	1,907	2,085	2,191	2,284	2,470	2,580
Mechanical	1,767	4,327	4,591	4,858	5,226	5,528	5,716	5,765	5,785
Metallurgical/materials	1,297	1,530	1,683	1,926	1,841	1,803	1,869	1,869	2,003
Mining	251	273	286	250	250	196	196	153	139
Nuclear	569	591	606	600	614	594	644	628	577
Petroleum	216	330	327	327	305	326	237	207	155
Engineering, n.e.c.	2,193	2,414	2,124	1,957	2,015	1,979	1,986	1,893	1,676
Sciences, total	138,622	139,341	138,575	137,561	138,164	138,309	138,058	141,338	145,149
Physical sciences	17,555	17,973	18,250	18,186	18,266	18,386	18,090	18,063	17,898
Astronomy	488	480	479	485	494	509	545	604	603
Chemistry	11,071	11,498	11,488	11,485	11,484	11,295	10,764	10,542	10,302
Physics	5,915	5,911	6,136	6,072	6,157	6,410	6,674	6,815	6,871
Physical sciences, n.e.c.	81	84	147	144	131	172	107	102	122
Earth, atmospheric, and ocean sciences	9,789	10,358	10,224	9,748	9,432	8,575	8,116	7,813	7,827
Atmospheric sciences	592	603	612	676	649	605	598	575	564
Geosciences	6,608	7,280	7,194	6,758	6,365	5,565	5,119	4,707	4,412
Oceanography	1,253	1,235	1,302	1,250	1,304	1,295	1,192	1,277	1,334
Earth, atmos., and ocean sci., n.e.c.	1,336	1,240	1,116	1,064	1,114	1,110	1,207	1,254	1,517
Mathematical sciences	6,935	6,722	6,781	7,009	7,253	7,555	7,749	7,717	8,076
Computer sciences	5,981	6,724	7,052	8,551	9,176	9,087	8,776	8,941	8,932
Agricultural sciences	7,508	7,368	7,329	6,759	6,685	6,366	6,376	6,359	6,287
Biological sciences	31,950	31,579	31,660	30,990	30,943	30,691	30,669	30,838	30,850
Anatomy	849	847	878	800	772	776	793	784	713
Biochemistry	3,192	3,232	3,416	3,112	3,566	3,422	3,433	3,356	3,313
Biology	8,193	8,049	7,868	7,437	7,355	7,311	7,354	7,619	7,527
Biometry/epidemiology	8,769	720	628	823	832	926	939	938	916
Biophysics	353	357	339	288	329	343	365	402	407
Botany	2,574	2,431	2,374	2,209	2,126	1,935	1,788	1,698	1,569
Cell biology	1,007	1,010	1,062	1,217	1,380	1,553	1,618	1,700	1,973
Ecology	830	766	790	776	757	686	713	745	705
Entomology/parasitology	1,113	1,065	1,040	904	855	767	775	718	714
Genetics	810	819	852	891	966	964	923	983	1,024
Microbiology	3,082	3,192	3,281	3,226	3,146	3,210	3,357	3,249	3,229
Nutrition	2,279	2,167	2,127	2,115	2,150	2,047	1,902	1,876	1,857
Pathology	847	862	914	847	866	884	876	865	845
Pharmacology	1,697	1,759	1,742	1,800	1,703	1,608	1,611	1,693	1,707
Physiology	1,617	1,554	1,714	1,721	1,687	1,646	1,561	1,507	1,535
Zoology	2,005	1,910	1,719	1,540	1,532	1,564	1,458	1,505	1,398
Biosciences, n.e.c.	733	839	916	884	951	1,049	1,203	1,197	1,418
Psychology	24,733	25,607	25,063	24,608	25,351	26,282	27,149	28,811	29,494
Social sciences	34,171	33,010	32,216	31,710	31,058	31,367	31,133	32,796	35,785
Agricultural economics	1,276	1,282	1,222	1,205	1,205	1,120	1,039	996	1,031
Anthropology	3,719	3,538	3,582	3,461	3,515	3,516	3,615	3,756	4,053
Economics (except agricultural)	5,925	5,667	5,249	4,975	4,910	4,785	4,592	4,634	4,719
Geography	1,748	1,816	1,803	1,764	1,724	1,865	1,808	1,932	1,991
History and philosophy of science	188	189	201	176	198	226	221	258	296
Linguistics	1,447	1,525	1,481	1,394	1,397	1,497	1,526	1,456	1,520
Political science	11,178	10,703	10,238	10,569	10,462	10,104	10,407	11,383	12,760
Sociology	3,890	3,693	3,676	3,439	3,352	3,691	3,659	3,892	4,314
Sociology/anthropology	323	342	484	437	460	434	442	499	639
Social sciences, n.e.c.	4,277	4,055	4,239	4,273	3,835	4,129	3,824	3,990	4,462
Total, health fields	20,975	20,600	20,905	21,185	21,060	21,677	22,138	23,302	24,666
Dentistry	598	579	638	590	646	764	774	689	658
Neurology	188	231	284	301	325	406	493	583	654
Nursing	6,410	6,045	5,941	5,879	5,718	5,761	5,841	5,817	5,929
Pharmaceutical sciences	1,116	1,078	1,069	1,085	1,082	1,071	1,032	1,143	1,203
Preventive medicine/community health	3,361	3,243	3,293	3,338	3,269	3,338	3,345	3,331	3,525
Speech pathology/audiology	5,148	5,038	5,084	5,254	5,144	4,858	5,048	5,446	5,542
Veterinary sciences	285	252	315	382	368	439	445	479	508
Clinical medicine, n.e.c.	927	921	971	971	950	998	1,038	1,121	1,161
Health related, n.e.c.	2,942	3,213	3,360	3,385	3,558	4,042	4,122	4,693	5,486

1/ Includes estimated data for master's-granting institutions were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-45. Full-time science and engineering graduate students without U.S. citizenship in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	57,637	62,187	63,727	68,447	75,364	79,041	83,880	87,077	90,810
Total, science/engineering fields	55,336	59,779	61,384	65,905	72,663	76,280	80,802	83,801	87,261
Engineering, total	21,421	22,871	23,305	24,156	27,111	28,104	29,617	30,444	31,336
Aerospace	577	752	739	736	811	813	1,031	1,015	1,090
Agricultural	341	341	327	353	424	446	473	490	461
Biomedical	199	195	220	194	280	376	431	576	595
Chemical	2,341	2,239	2,131	2,209	2,182	2,312	2,392	2,605	2,751
Civil	4,048	4,365	4,507	4,524	4,780	4,617	4,798	4,932	4,860
Electrical	5,112	5,840	5,996	6,639	7,713	8,081	8,379	8,703	8,940
Engineering science	440	495	484	469	591	595	622	557	548
Industrial	1,626	1,372	1,471	1,623	1,801	2,064	2,115	2,290	2,386
Mechanical	3,500	4,003	4,107	4,017	4,575	4,649	5,124	4,850	5,058
Metallurgical/materials	1,181	1,174	1,209	1,286	1,506	1,594	1,643	1,816	1,845
Mining	122	155	141	135	192	196	219	185	195
Nuclear	473	461	412	430	445	450	461	484	503
Petroleum	260	290	287	250	267	318	362	299	329
Engineering, n.e.c.	1,201	1,189	1,274	1,291	1,544	1,593	1,567	1,642	1,775
Sciences, total	33,915	36,908	38,079	41,749	45,552	48,176	51,185	53,357	55,925
Physical sciences	6,485	7,232	7,602	8,483	9,498	10,028	10,484	11,130	11,675
Astronomy	102	105	117	150	160	172	160	158	187
Chemistry	3,216	3,525	3,635	4,095	4,513	4,960	5,324	5,715	6,088
Physics	3,157	3,584	3,828	4,215	4,800	4,894	4,964	5,225	5,351
Physical sciences, n.e.c.	10	18	22	23	25	22	36	32	49
Earth, atmospheric, and ocean sciences	1,647	1,691	1,595	1,691	1,891	1,968	2,180	2,325	2,468
Atmospheric sciences	187	182	164	196	206	219	231	235	264
Geosciences	913	923	899	945	1,019	1,101	1,195	1,279	1,396
Oceanography	340	377	297	312	390	356	437	522	519
Earth, atmos., and ocean sci., n.e.c.	207	209	235	238	276	292	317	289	289
Mathematical sciences	3,888	4,242	4,538	4,824	5,145	5,494	5,774	5,988	5,794
Computer sciences	3,190	3,963	4,535	5,550	6,134	6,485	6,820	7,067	7,940
Agricultural sciences	2,383	2,468	2,421	2,338	2,544	2,617	2,610	2,567	2,674
Biological sciences	5,039	5,533	5,820	6,372	7,235	8,098	9,103	10,146	10,835
Anatomy	88	74	58	91	121	153	180	215	209
Biochemistry	658	775	847	976	1,098	1,217	1,335	1,526	1,623
Biology	851	961	1,103	1,094	1,252	1,374	1,529	1,714	1,813
Biometry/epidemiology	150	157	123	173	223	271	305	310	348
Biophysics	70	80	80	93	120	125	179	208	198
Botany	595	612	619	627	757	777	897	890	902
Cell biology	103	128	147	189	275	333	405	477	542
Ecology	80	78	87	100	100	110	123	134	185
Entomology/parasitology	227	240	224	234	252	295	286	291	301
Genetics	114	145	134	166	205	244	264	300	293
Microbiology	435	512	545	653	725	809	952	1,070	1,136
Nutrition	841	821	891	925	905	967	974	998	1,063
Pathology	174	206	169	189	204	251	250	295	299
Pharmacology	243	245	264	264	333	396	439	528	587
Physiology	188	212	255	265	318	350	447	550	581
Zoology	131	142	144	178	188	223	261	269	285
Biosciences, n.e.c.	91	145	138	155	159	203	257	371	470
Psychology	1,079	1,094	1,045	1,161	1,170	1,215	1,331	1,361	1,498
Social sciences	10,204	10,685	10,523	11,330	11,935	12,271	12,883	12,773	13,041
Agricultural economics	702	765	764	768	759	737	870	916	930
Anthropology	386	402	386	445	536	582	651	655	688
Economics (except agricultural)	3,554	3,548	3,575	4,000	4,093	4,244	4,480	4,513	4,627
Geography	391	386	372	360	434	425	407	426	438
History and philosophy of science	35	40	42	51	39	41	45	45	44
Linguistics	710	850	838	943	961	952	994	1,012	1,066
Political science	2,515	2,740	2,560	2,602	2,948	2,903	2,965	2,681	2,712
Sociology	985	1,101	1,069	1,205	1,243	1,335	1,423	1,377	1,365
Sociology/anthropology	134	129	122	128	124	126	124	134	143
Social sciences, n.e.c.	792	724	795	828	848	926	924	1,014	1,028
Total, health fields	2,301	2,408	2,343	2,542	2,701	2,761	3,078	3,276	3,549
Dentistry	129	122	130	155	179	145	156	170	182
Neurology	14	27	29	34	48	69	97	102	134
Nursing	202	159	172	166	160	163	183	170	197
Pharmaceutical sciences	587	619	630	633	681	676	797	893	934
Preventive medicine/community health ...	695	718	662	799	810	824	872	875	975
Speech pathology/audiology	205	242	208	222	251	231	267	276	298
Veterinary sciences	93	111	110	133	138	153	161	189	201
Clinical medicine, n.e.c.	149	168	118	189	197	212	232	245	270
Health related, n.e.c.	227	242	284	211	237	288	313	356	358

1/ Includes estimated data for master's-granting institutions, were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-46. Part-time science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	138,826	140,313	142,581	148,475	150,917	152,060	151,789	153,952	163,107
Total, science/engineering fields	117,937	118,977	119,845	125,129	126,063	126,980	125,631	126,636	133,948
Engineering, total	34,348	37,616	38,116	40,668	42,363	42,477	40,319	40,099	42,752
Aerospace	419	568	591	664	770	749	785	787	996
Agricultural	136	203	181	174	173	139	160	180	146
Biomedical	185	213	224	244	255	297	300	308	332
Chemical	1,581	1,694	1,639	1,604	1,418	1,437	1,259	1,178	1,281
Civil	4,748	5,114	5,114	5,156	5,005	5,067	4,865	4,945	5,446
Electrical	10,484	12,010	12,449	13,376	13,686	14,299	14,307	14,765	15,177
Engineering science	853	905	881	834	917	973	974	818	1,215
Industrial	6,039	6,287	6,382	7,548	8,334	8,435	7,450	6,799	6,850
Mechanical	4,200	4,581	5,157	5,282	5,359	6,129	5,795	5,790	6,036
Metallurgical/materials	646	743	785	850	823	912	851	859	974
Mining	76	96	98	98	70	74	74	80	103
Nuclear	259	151	216	190	206	235	198	211	198
Petroleum	110	117	130	205	175	174	143	159	186
Engineering, n.e.c.	4,612	4,934	4,289	4,443	4,692	3,553	3,158	3,220	3,812
Sciences, total	83,589	81,361	81,729	84,461	83,700	84,503	85,312	86,537	91,196
Physical sciences	4,159	4,261	4,212	4,326	4,496	4,324	4,398	4,435	4,764
Astronomy	42	33	43	36	35	41	26	27	21
Chemistry	2,728	2,778	2,633	2,729	2,748	2,589	2,490	2,560	2,752
Physics	1,234	1,316	1,371	1,390	1,486	1,506	1,674	1,620	1,763
Physical sciences, n.e.c.	155	134	165	171	227	188	208	228	228
Earth, atmospheric, and ocean sciences	3,738	3,495	3,793	4,106	3,840	3,979	3,736	3,710	3,864
Atmospheric sciences	110	111	131	92	106	128	111	102	101
Geosciences	2,100	2,118	2,277	2,591	2,435	2,332	2,181	2,096	1,934
Oceanography	498	451	503	519	434	476	404	408	399
Earth, atmos., and ocean sci., n.e.c.	1,030	815	882	904	865	1,043	1,040	1,104	1,430
Mathematical sciences	6,376	6,433	6,159	5,780	5,592	5,524	5,618	5,677	6,014
Computer sciences	10,641	12,929	14,223	15,743	16,115	16,565	17,191	16,838	17,635
Agricultural sciences	2,423	2,454	2,312	2,283	2,100	2,021	2,014	2,112	2,222
Biological sciences	9,321	8,943	8,691	9,176	9,038	8,663	8,544	8,633	9,236
Anatomy	137	116	93	102	80	87	83	79	89
Biochemistry	274	227	227	203	245	209	190	272	217
Biology	4,353	4,061	3,934	4,201	4,130	3,823	3,719	3,625	3,918
Biometry/epidemiology	247	279	253	364	386	420	499	541	702
Biophysics	17	13	14	60	98	123	48	45	37
Botany	475	407	411	499	407	428	398	413	413
Cell biology	33	63	111	152	61	78	55	57	77
Ecology	141	163	211	152	155	167	192	230	287
Entomology/parasitology	200	170	174	204	199	182	179	172	179
Genetics	66	71	73	63	91	106	102	82	91
Microbiology	613	558	500	568	503	438	465	498	509
Nutrition	1,239	1,363	1,259	1,266	1,266	1,274	1,352	1,385	1,339
Pathology	439	394	385	319	328	307	274	268	280
Pharmacology	144	136	124	117	123	150	140	132	144
Physiology	253	228	191	225	215	217	212	149	160
Zoology	367	378	440	417	363	326	315	315	427
Biosciences, n.e.c.	323	335	355	385	388	328	321	370	367
Psychology	14,270	14,338	14,966	15,539	15,030	15,391	15,909	16,132	17,667
Social sciences	32,661	28,508	27,373	27,508	27,489	28,036	27,902	29,000	29,794
Agricultural economics	289	248	252	278	284	346	350	364	312
Anthropology	1,843	1,704	1,622	1,715	1,744	1,727	1,669	1,717	1,753
Economics (except agricultural)	4,256	3,947	3,775	3,527	3,181	3,106	3,080	3,142	3,086
Geography	1,027	858	860	812	947	933	993	1,153	1,189
History and philosophy of science	33	24	31	45	29	27	22	39	30
Linguistics	646	647	841	718	751	833	735	887	947
Political science	16,194	14,607	13,123	13,841	13,841	14,601	14,484	15,015	15,226
Sociology	2,371	2,126	1,995	1,923	1,909	1,919	1,963	2,089	2,077
Sociology/anthropology	476	529	469	469	437	422	425	389	430
Social sciences, n.e.c.	5,526	3,818	4,405	4,180	4,366	4,122	4,181	4,205	4,744
Total health fields	20,889	21,336	22,736	23,346	24,854	25,080	26,158	27,316	29,159
Dentistry	109	75	82	90	113	148	155	148	129
Neurology	2	3	4	2	10	19	10	21	22
Nursing	9,642	10,741	11,874	11,917	12,546	12,555	12,963	13,825	15,194
Pharmaceutical sciences	816	873	748	761	840	783	706	800	826
Preventive medicine/community health	2,760	2,718	2,886	3,155	3,147	3,398	3,454	3,474	3,761
Speech pathology/audiology	3,239	2,585	2,485	2,540	2,564	2,403	2,423	2,455	2,768
Veterinary sciences	93	103	132	122	124	139	146	133	191
Clinical medicine, n.e.c.	662	554	532	567	551	570	578	438	408
Health related, n.e.c.	3,566	3,684	3,993	4,192	4,959	5,065	5,723	6,022	5,860

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-47. Part-time science and engineering graduate students in all institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all institutions	138,826	140,313	142,581	148,475	150,917	152,060	151,789	153,952	163,107
New England	11,040	11,535	9,701	10,088	9,777	9,808	11,526	10,866	11,500
Connecticut	3,065	3,172	2,676	2,740	2,689	2,770	3,059	3,113	3,255
Maine	55	97	118	118	117	169	145	162	165
Massachusetts	7,113	7,389	6,206	6,453	6,148	6,105	7,277	6,587	7,131
New Hampshire	165	190	110	131	135	119	274	331	277
Rhode Island	422	479	356	449	469	449	567	516	539
Vermont	220	208	235	197	219	196	204	157	133
Middle Atlantic	34,228	35,749	32,137	32,533	32,467	31,360	35,111	34,842	36,855
New Jersey	5,944	6,137	6,242	6,240	5,890	5,779	6,320	5,838	6,125
New York	20,657	21,948	19,354	19,650	19,657	18,865	20,909	21,240	22,214
Pennsylvania	7,627	7,664	6,541	6,643	6,920	6,716	7,882	7,764	8,516
East North Central	19,766	20,512	19,565	19,375	20,484	20,816	22,579	23,330	24,970
Illinois	6,451	6,370	5,994	6,312	6,111	6,360	7,112	7,590	8,051
Indiana	2,378	2,565	1,703	1,276	1,770	1,749	1,897	1,987	2,173
Michigan	2,712	3,955	4,257	4,317	4,783	4,828	4,837	5,191	5,586
Ohio	2,185	5,392	5,804	5,681	5,987	5,985	6,382	6,078	6,581
Wisconsin	2,040	2,230	1,807	1,789	1,833	1,894	2,351	2,484	2,579
West North Central	6,596	6,869	6,163	7,154	7,278	7,418	8,611	9,262	9,978
Iowa	884	898	859	874	957	958	1,031	1,005	1,136
Kansas	1,132	1,323	1,271	1,852	1,820	1,954	2,047	2,249	2,357
Minnesota	1,151	1,275	822	1,041	909	813	1,512	1,690	1,787
Missouri	2,327	2,243	2,153	2,250	2,419	2,514	2,741	2,913	3,256
Nebraska	703	757	693	730	783	778	871	944	1,003
North Dakota	166	167	180	181	159	128	144	165	131
South Dakota	233	206	185	226	231	273	265	296	308
South Atlantic	22,057	19,608	20,116	21,249	22,311	23,705	24,694	24,805	26,470
Delaware	439	404	413	388	389	446	354	356	353
District of Columbia	5,049	4,797	5,224	5,211	5,762	5,818	5,145	4,871	4,840
Florida	4,726	3,365	3,072	3,630	3,597	4,577	5,235	5,001	6,090
Georgia	1,580	1,398	1,485	516	1,600	1,822	2,082	2,269	2,314
Maryland	3,462	3,671	3,782	3,690	3,730	3,687	4,187	4,355	4,353
North Carolina	1,558	1,756	1,728	1,738	1,840	1,872	1,864	2,019	2,148
South Carolina	1,056	910	934	882	1,019	1,084	1,028	1,076	1,101
Virginia	2,308	2,356	2,622	3,332	3,572	3,553	3,818	3,944	4,279
West Virginia	1,879	951	856	822	802	846	981	914	992
East South Central	4,824	4,963	4,629	4,774	4,964	5,013	6,251	6,666	7,377
Alabama	1,127	1,110	1,120	1,245	1,293	1,463	1,712	1,860	2,623
Kentucky	1,198	1,131	871	861	889	971	1,569	1,647	1,466
Mississippi	558	548	712	727	683	634	725	740	567
Tennessee	1,941	2,174	1,926	1,941	2,099	1,945	2,245	2,419	2,721
West South Central	12,010	13,105	10,874	11,600	11,564	11,502	13,406	14,329	15,549
Arkansas	571	632	357	398	375	465	821	604	610
Louisiana	1,306	1,485	1,243	1,171	1,054	907	1,030	1,123	1,274
Oklahoma	880	1,002	946	1,442	1,455	1,819	1,798	1,995	2,034
Texas	9,253	9,986	8,328	8,589	8,680	8,311	9,757	10,607	11,631
Mountain	6,147	5,659	5,777	6,572	6,689	6,813	7,039	7,495	8,481
Arizona	2,208	1,867	1,884	2,175	1,950	2,072	1,974	2,220	2,353
Colorado	1,675	1,422	1,350	1,467	1,851	1,744	1,907	2,064	2,502
Idaho	282	351	409	480	452	512	568	686	760
Montana	83	80	91	133	121	138	151	171	164
Nevada	152	165	129	119	95	116	347	352	584
New Mexico	794	828	759	781	784	827	904	886	888
Utah	852	905	1,032	1,126	1,170	1,223	1,030	944	920
Wyoming	101	41	123	291	266	181	158	172	210
Pacific	21,493	21,529	18,828	20,206	20,359	20,515	21,808	21,589	21,207
Alaska	243	230	7	169	97	164	270	190	302
California	18,736	18,708	16,739	18,045	18,323	18,254	18,965	18,941	18,254
Hawaii	280	280	242	238	250	295	307	318	329
Oregon	621	656	601	557	565	624	700	714	794
Washington	1,613	1,655	1,239	1,197	1,124	1,178	1,566	1,426	1,528
Outlying areas	665	784	730	775	787	785	764	768	720
State unknown 2/	0	0	14,061	14,149	14,237	14,325	0	0	0

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

2/ These numbers represent the total of all nonsampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-48. Male part-time science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	83,889	83,964	84,617	88,199	89,025	89,400	87,111	87,156	91,072
Total, science/engineering fields	79,676	80,012	80,587	83,927	84,443	84,648	82,464	82,489	86,292
Engineering, total	30,789	33,391	33,766	35,751	36,835	36,748	34,714	34,545	36,612
Aerospace	382	523	543	622	716	690	721	722	903
Agricultural	129	188	166	154	150	128	146	165	128
Biomedical	146	170	180	198	207	246	236	229	245
Chemical	1,352	1,447	1,399	1,354	1,167	1,157	976	945	1,033
Civil	4,239	4,549	4,524	4,501	4,345	4,358	4,136	4,159	4,531
Electrical	9,751	10,909	11,401	12,166	12,253	12,765	12,726	13,079	13,376
Engineering science	710	750	734	712	772	811	832	709	1,049
Industrial	5,157	5,330	5,276	6,256	6,724	6,849	5,981	5,497	5,547
Mechanical	3,914	4,259	4,762	4,830	5,405	5,565	5,210	5,237	5,433
Metallurgical/materials	534	619	671	686	671	759	682	693	784
Mining	71	90	75	96	69	73	68	74	92
Nuclear	246	141	198	174	182	211	172	189	171
Petroleum	101	108	122	186	165	163	125	151	177
Engineering, n.e.c.	4,057	4,308	3,715	3,816	4,009	2,973	2,703	2,699	3,143
Sciences, total	48,887	46,621	46,821	48,176	47,608	47,900	47,750	47,944	49,680
Physical sciences	3,135	3,215	3,149	3,242	3,372	3,236	3,265	3,290	3,495
Astronomy	35	26	40	32	30	36	22	23	17
Chemistry	1,918	1,945	1,817	1,926	1,923	1,799	1,679	1,748	1,842
Physics	1,094	1,151	1,186	1,177	1,272	1,276	1,442	1,367	1,483
Physical sciences, n.e.c.	88	93	106	107	147	125	122	152	153
Earth, atmospheric, and ocean sciences	2,785	2,555	2,765	2,997	2,793	2,882	2,658	2,576	2,649
Atmospheric sciences	101	99	114	74	88	108	95	86	91
Geosciences	1,585	1,559	1,714	1,968	1,853	1,760	1,602	1,556	1,415
Oceanography	365	335	351	357	292	334	284	262	258
Earth, atmos., and ocean sci., n.e.c.	734	562	586	598	560	680	677	672	885
Mathematical sciences	4,080	4,140	3,963	3,612	3,503	3,453	3,540	3,590	3,819
Computer sciences	7,506	8,930	10,080	11,336	11,702	11,988	12,367	12,174	12,944
Agricultural sciences	1,883	1,835	1,747	1,688	1,531	1,430	1,388	1,474	1,513
Biological sciences	4,681	4,361	4,257	4,453	4,355	4,281	3,995	3,957	4,261
Anatomy	89	74	50	60	46	45	49	40	42
Biochemistry	154	123	136	117	147	115	89	167	123
Biology	2,353	2,116	2,018	2,160	2,112	2,041	1,902	1,793	1,906
Biometry/epidemiology	108	123	119	182	181	198	211	200	303
Biophysics	14	10	12	44	73	95	37	29	26
Botany	302	250	265	299	265	271	249	267	249
Cell biology	25	26	33	16	35	44	32	31	16
Ecology	89	109	155	100	86	86	99	125	147
Entomology/parasitology	137	121	124	139	140	130	129	124	123
Genetics	20	25	30	30	47	53	50	36	40
Microbiology	307	261	233	266	243	212	216	230	242
Nutrition	215	266	247	230	200	252	241	261	281
Pathology	230	215	202	153	181	155	137	118	139
Pharmacology	90	85	75	68	73	93	96	83	89
Physiology	165	145	117	130	119	125	111	79	77
Zoology	213	239	270	260	219	200	202	206	266
Biosciences, n.e.c.	175	173	171	199	188	166	145	168	162
Psychology	5,696	5,282	5,460	5,422	5,127	5,260	5,328	5,237	5,206
Social sciences	19,121	16,303	15,400	15,426	15,225	15,370	15,209	15,646	15,793
Agricultural economics	223	186	181	207	210	267	264	275	232
Anthropology	774	710	636	721	665	651	643	668	664
Economics (except agricultural)	3,008	2,867	2,737	2,513	2,223	2,165	2,138	2,164	2,140
Geography	693	567	554	555	619	584	668	750	760
History and philosophy of science	18	16	21	25	19	14	15	26	16
Linguistics	234	192	287	217	236	272	236	269	280
Political science	9,504	8,472	7,618	7,927	7,883	8,202	7,973	8,248	8,150
Sociology	1,045	925	842	817	824	785	853	884	851
Sociology/anthropology	225	269	220	225	208	194	174	157	179
Social sciences, n.e.c.	3,397	2,106	2,304	2,219	2,338	2,236	2,245	2,205	2,521
Total, health fields	4,213	3,952	4,030	4,272	4,582	4,752	4,647	4,667	4,780
Dentistry	88	55	55	64	88	105	106	93	87
Neurology	2	3	3	2	5	12	1	13	8
Nursing	343	389	429	485	487	576	552	626	649
Pharmaceutical sciences	559	566	458	465	527	456	393	442	482
Preventive medicine/community health	1,145	1,030	1,119	1,236	1,231	1,420	1,338	1,217	1,353
Speech pathology/audiology	401	283	340	318	317	227	246	216	257
Veterinary sciences	58	63	81	97	67	79	73	70	97
Clinical medicine, n.e.c.	305	228	203	171	212	207	181	149	155
Health related, n.e.c.	1,312	1,335	1,342	1,434	1,648	1,670	1,757	1,841	1,692

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-49. Male part-time science and engineering graduate students in all institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all institutions	83,889	83,964	84,617	88,199	89,025	89,400	87,111	87,156	91,072
New England	7,287	7,521	6,828	6,986	6,390	6,371	6,969	6,387	6,783
Connecticut	2,117	2,211	1,891	2,068	1,755	1,787	1,864	1,912	1,991
Maine	37	53	71	67	79	118	101	111	106
Massachusetts	4,660	4,743	4,409	4,371	4,083	4,023	4,408	3,828	4,156
New Hampshire	105	113	65	68	70	65	156	186	178
Rhode Island	216	271	210	271	257	259	311	250	265
Vermont	152	130	182	141	146	119	129	100	87
Middle Atlantic	19,826	20,520	18,504	18,677	19,115	18,411	19,896	19,392	20,244
New Jersey	3,689	3,935	4,215	4,188	3,915	4,100	4,241	3,851	4,023
New York	11,149	11,636	10,044	10,220	10,689	10,106	11,013	10,977	11,240
Pennsylvania	4,988	4,949	4,245	4,269	4,511	4,205	4,642	4,564	4,981
East North Central	11,754	11,966	11,129	11,121	11,169	11,526	12,400	12,517	13,304
Illinois	3,521	3,504	3,204	3,444	3,119	3,283	3,709	3,845	4,095
Indiana	1,428	1,416	620	624	635	657	747	790	897
Michigan	2,321	2,481	2,706	2,687	2,914	2,988	2,924	3,155	3,262
Ohio	3,384	3,349	3,594	3,421	3,522	3,589	3,792	3,674	3,681
Wisconsin	1,100	1,216	1,005	945	979	1,009	1,228	1,253	1,369
West North Central	3,872	3,863	3,685	4,079	4,188	4,366	4,869	5,091	5,166
Iowa	547	549	538	500	554	544	600	532	570
Kansas	523	575	711	1,080	1,025	1,154	1,139	1,229	1,232
Minnesota	618	621	418	320	448	466	717	797	775
Missouri	1,477	1,385	1,363	1,373	1,489	1,538	1,668	1,784	1,876
Nebraska	463	488	418	380	442	421	492	508	497
North Dakota	116	121	127	114	100	90	98	101	78
South Dakota	128	124	110	112	130	153	155	140	138
South Atlantic	13,506	11,960	12,323	12,993	13,649	14,193	14,031	14,111	14,670
Delaware	234	217	223	211	216	259	192	191	188
District of Columbia	3,477	3,313	3,558	3,534	3,850	3,643	3,134	2,917	2,948
Florida	3,291	2,091	1,924	2,243	2,284	2,813	2,956	2,959	3,378
Georgia	957	839	940	930	963	1,157	1,288	1,375	1,298
Maryland	1,817	1,923	1,929	1,905	1,905	1,988	2,175	2,220	2,172
North Carolina	908	983	1,005	925	1,001	960	968	1,038	1,087
South Carolina	704	594	634	549	611	615	587	618	619
Virginia	1,358	1,442	1,631	2,226	2,344	2,297	2,230	2,336	2,505
West Virginia	760	558	479	470	475	461	501	457	475
East South Central	2,864	2,978	2,758	2,871	2,976	2,883	3,657	3,835	4,168
Alabama	632	591	612	729	747	789	920	1,005	1,557
Kentucky	676	674	483	499	531	558	995	1,017	1,809
Mississippi	315	322	415	419	377	365	366	379	281
Tennessee	1,241	1,391	1,248	1,224	1,321	1,171	1,376	1,434	1,521
West South Central	6,822	7,348	6,079	6,615	6,469	6,755	7,413	8,092	8,775
Arkansas	284	290	229	246	215	291	345	274	254
Louisiana	742	864	683	622	592	525	563	631	719
Oklahoma	546	588	574	916	925	1,202	1,165	1,239	1,243
Texas	5,250	5,606	4,593	4,831	4,737	4,737	5,340	5,948	6,559
Mountain	3,945	3,702	3,735	4,299	4,200	4,347	4,319	4,573	5,235
Arizona	1,365	1,213	1,183	1,379	1,162	1,314	1,130	1,285	1,343
Colorado	1,084	914	853	929	1,133	1,033	1,135	1,239	1,718
Idaho	223	278	333	366	340	396	407	476	536
Montana	49	48	52	87	60	86	89	95	78
Nevada	80	105	85	80	60	62	224	205	368
New Mexico	542	530	492	511	482	532	569	578	554
Utah	535	586	660	735	742	783	647	599	554
Wyoming	67	28	77	212	221	141	118	96	84
Pacific	13,730	13,818	12,333	13,304	13,564	13,197	13,258	12,906	12,465
Alaska	171	163	6	121	66	107	166	113	190
California	11,997	11,931	11,018	11,911	12,305	11,831	11,622	11,429	10,801
Hawaii	163	155	124	119	133	135	148	158	146
Oregon	401	439	393	353	345	388	429	423	484
Washington	998	1,130	792	800	715	736	893	783	844
Outlying areas	283	288	347	330	349	367	299	252	262
State unknown 2/	0	0	6,896	6,924	6,956	6,984	0	0	0

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

2/ These numbers represent the total of all nonsampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-50. Female part-time science and engineering graduate students in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	54,937	56,349	57,964	60,276	61,892	62,660	64,678	66,796	72,035
Total, science/engineering fields	38,261	38,965	39,258	41,202	41,620	42,332	43,167	44,147	47,656
Engineering, total	3,559	4,225	4,350	4,917	5,528	5,729	5,605	5,554	6,140
Aerospace	37	45	48	42	54	59	64	65	93
Agricultural	7	15	15	20	23	11	14	18	18
Biomedical	39	43	44	46	48	51	64	79	87
Chemical	229	247	240	250	251	280	283	233	248
Civil	509	565	590	655	660	709	729	786	915
Electrical	733	1,101	1,048	1,210	1,433	1,534	1,581	1,686	1,801
Engineering science	143	155	147	122	145	162	142	109	166
Industrial	882	957	1,106	1,292	1,510	1,586	1,469	1,302	1,303
Mechanical	286	322	395	452	534	564	585	553	603
Metallurgical/materials	115	124	114	164	152	153	169	166	190
Mining	6	3	2	1	1	3	2	2	11
Nuclear	13	10	18	16	24	26	26	27	27
Petroleum	9	9	8	19	10	11	18	8	9
Engineering, n.e.c.	555	626	574	627	683	580	455	521	669
Sciences, total	34,702	34,740	34,908	36,285	36,092	36,603	37,562	38,593	41,516
Physical sciences	1,024	1,046	1,063	1,084	1,124	1,088	1,133	1,145	1,269
Astronomy	7	7	3	4	5	5	4	4	4
Chemistry	810	833	816	803	825	790	811	812	910
Physics	140	165	185	213	214	230	232	253	280
Physical sciences, n.e.c.	67	41	59	64	80	63	86	76	75
Earth, atmospheric, and ocean sciences	953	940	1,028	1,109	1,047	1,097	1,078	1,134	1,215
Atmospheric sciences	9	12	17	18	18	20	16	16	10
Geosciences	515	559	563	623	582	572	579	540	519
Oceanography	133	116	152	162	142	142	120	146	141
Earth, atmos., and ocean sci., n.e.c.	296	253	296	306	305	363	363	432	545
Mathematical sciences	2,296	2,293	2,196	2,168	2,089	2,071	2,078	2,087	2,195
Computer sciences	3,135	3,999	4,143	4,407	4,413	4,577	4,824	4,664	4,691
Agricultural sciences	540	619	565	595	569	591	626	638	709
Biological sciences	4,640	4,582	4,434	4,723	4,683	4,382	4,549	4,676	4,975
Anatomy	48	42	43	42	34	42	34	39	47
Biochemistry	120	104	91	86	98	94	101	105	94
Biology	2,000	1,945	1,916	2,041	2,018	1,782	1,817	1,832	2,012
Biometry/epidemiology	139	156	134	182	205	222	288	341	399
Biophysics	3	3	2	16	25	11	16	11	11
Botany	173	157	146	200	142	157	149	146	164
Cell biology	11	18	14	7	26	34	23	26	31
Ecology	54	54	56	52	69	81	93	105	140
Entomology/parasitology	63	49	50	65	59	52	50	48	56
Genetics	46	46	43	33	44	53	52	46	51
Microbiology	306	297	267	302	260	226	249	268	267
Nutrition	1,024	1,097	1,012	1,044	1,066	1,022	1,111	1,124	1,058
Pathology	209	179	183	166	147	152	137	150	141
Pharmacology	54	51	49	49	50	57	44	49	55
Physiology	88	83	74	95	96	92	101	70	83
Zoology	154	139	170	157	144	126	113	109	161
Biosciences, n.e.c.	148	162	184	186	200	162	176	202	205
Psychology	8,574	9,056	9,506	10,117	9,903	10,131	10,581	10,895	12,461
Social sciences	13,540	12,205	11,973	12,082	12,264	12,666	12,693	13,354	14,001
Agricultural economics	66	62	71	71	74	79	86	89	80
Anthropology	1,069	994	986	994	1,079	1,076	1,026	1,049	1,089
Economics (except agricultural)	1,248	1,080	1,038	1,014	958	941	942	978	946
Geography	334	298	306	257	328	349	325	403	429
History and philosophy of science	15	8	10	20	10	13	7	13	14
Linguistics	412	455	554	501	515	561	499	618	667
Political science	6,690	6,135	5,305	5,914	5,958	6,399	6,511	6,767	7,076
Sociology	1,326	1,201	1,153	1,106	1,085	1,134	1,110	1,205	1,226
Sociology/anthropology	251	260	249	244	229	228	251	232	251
Social sciences, n.e.c.	2,129	1,712	2,101	1,961	2,028	1,886	1,936	2,000	2,223
Total, health fields	16,676	17,384	18,706	19,074	20,272	20,328	21,511	22,649	24,379
Dentistry	21	20	27	26	25	43	49	55	42
Neurology	0	0	1	0	5	7	9	8	14
Nursing	9,299	10,352	11,445	11,432	12,059	11,979	12,411	13,199	14,545
Pharmaceutical sciences	257	307	290	296	313	327	313	358	344
Preventive medicine/community health	1,615	1,688	1,767	1,919	1,916	1,978	2,116	2,357	2,408
Speech pathology/audiology	2,838	2,302	2,145	2,222	2,247	2,176	2,177	2,239	2,511
Veterinary sciences	35	40	51	51	57	60	73	63	94
Clinical medicine, n.e.c.	357	326	329	370	339	363	397	289	253
Health related, n.e.c.	2,254	2,349	2,651	2,758	3,311	3,395	3,966	4,181	4,168

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-51. Female part-time science and engineering graduate students in all institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all institutions	54,937	56,349	57,964	60,276	61,892	62,660	64,678	66,796	72,035
New England	3,753	4,014	2,873	3,102	3,387	3,437	4,557	4,479	4,717
Connecticut	948	961	785	672	934	983	1,195	1,201	1,264
Maine	18	44	47	51	38	31	44	51	59
Massachusetts	2,453	2,646	1,797	2,082	2,065	2,082	2,869	2,759	2,975
New Hampshire	60	77	45	63	65	54	118	145	99
Rhode Island	206	208	146	178	212	190	256	266	274
Vermont	68	78	53	56	73	77	75	57	46
Middle Atlantic	14,402	15,229	13,633	13,856	13,352	12,949	15,215	15,450	16,611
New Jersey	2,255	2,202	2,027	2,052	1,975	1,679	2,079	1,987	2,102
New York	9,508	10,312	9,310	9,430	8,968	8,759	9,896	10,263	10,974
Pennsylvania	2,639	2,715	2,296	2,374	2,409	2,511	3,240	3,200	3,535
East North Central	8,012	8,546	8,436	8,254	9,315	9,290	10,179	10,813	11,666
Illinois	2,930	2,866	2,790	2,868	2,992	3,077	3,403	3,745	3,956
Indiana	950	1,149	1,083	652	1,135	1,092	1,150	1,197	1,276
Michigan	1,391	1,474	1,551	1,630	1,869	1,840	1,913	2,036	2,324
Ohio	1,801	2,043	2,210	2,260	2,465	2,396	2,590	2,604	2,900
Wisconsin	940	1,014	802	844	854	885	1,123	1,231	1,210
West North Central	2,724	3,006	2,478	3,075	3,090	3,052	3,742	4,171	4,812
Iowa	337	349	321	374	403	414	431	473	566
Kansas	609	748	560	772	795	800	908	1,020	1,125
Minnesota	533	654	404	521	461	347	795	893	1,012
Missouri	850	858	790	877	930	976	1,073	1,129	1,380
Nebraska	240	269	275	350	341	357	379	436	506
North Dakota	50	46	53	67	59	38	46	64	53
South Dakota	105	82	75	114	101	120	110	156	170
South Atlantic	8,551	7,648	7,793	8,256	8,662	9,512	10,663	10,694	11,800
Delaware	205	187	190	177	173	187	162	165	165
District of Columbia	1,572	1,484	1,666	1,677	1,912	2,175	2,011	1,954	1,892
Florida	1,435	1,274	1,148	1,387	1,313	1,764	2,279	2,042	2,712
Georgia	623	559	545	586	637	665	794	894	1,016
Maryland	1,645	1,748	1,853	1,785	1,825	1,699	2,012	2,135	2,181
North Carolina	650	773	723	813	839	912	896	981	1,061
South Carolina	352	316	300	333	408	469	441	458	482
Virginia	950	914	991	1,146	1,228	1,256	1,588	1,608	1,774
West Virginia	1,119	393	377	352	327	385	480	457	517
East South Central	1,960	1,985	1,871	1,903	1,988	2,130	2,594	2,831	3,209
Alabama	495	519	508	516	546	674	792	855	1,066
Kentucky	522	457	388	362	358	413	574	630	657
Mississippi	243	226	297	308	306	269	359	361	286
Tennessee	700	783	678	717	778	774	869	985	1,200
West South Central	5,188	5,757	4,795	4,985	5,095	4,747	5,993	6,237	6,774
Arkansas	287	342	128	152	160	174	476	330	356
Louisiana	564	621	560	549	462	382	467	492	555
Oklahoma	334	414	372	526	530	617	633	756	791
Texas	4,003	4,380	3,735	3,758	3,943	3,574	4,417	4,659	5,072
Mountain	2,202	1,957	2,042	2,273	2,489	2,466	2,720	2,922	3,246
Arizona	843	654	701	796	788	758	844	935	1,010
Colorado	591	508	497	538	718	711	772	825	884
Idaho	59	73	76	114	112	116	161	210	224
Montana	34	32	39	46	61	52	62	76	86
Nevada	72	60	44	39	54	54	123	147	216
New Mexico	252	298	267	270	302	295	335	308	334
Utah	317	319	372	391	428	440	383	345	366
Wyoming	34	13	46	79	45	40	40	76	126
Pacific	7,763	7,711	6,495	6,902	6,795	7,318	8,550	8,683	8,742
Alaska	72	67	1	48	31	57	104	77	112
California	6,779	6,777	5,721	6,134	6,018	6,423	7,343	7,512	7,453
Hawaii	117	125	118	119	117	160	159	160	183
Oregon	220	217	208	204	220	236	271	291	310
Washington	615	525	447	397	409	442	673	643	684
Outlying areas	382	496	383	445	438	418	465	516	458
State unknown 2/	0	0	7,165	7,225	7,281	7,341	0	0	0

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

2/ These numbers represent the total of all nonsampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-52. Part-time science and engineering graduate students in public institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	83,935	85,341	87,402	91,620	94,546	95,687	96,456	101,051	109,321
Total, science/engineering fields	69,939	71,268	72,539	76,344	77,748	78,343	78,448	82,106	89,156
Engineering, total	18,238	19,880	20,124	22,040	23,132	24,199	23,219	24,553	27,234
Aerospace	241	370	434	470	523	525	503	513	714
Agricultural	135	203	181	174	173	139	160	180	146
Biomedical	100	122	120	111	143	146	170	207	191
Chemical	987	1,092	1,050	1,060	901	859	830	813	950
Civil	2,859	3,134	3,278	3,417	3,316	3,649	3,433	3,680	3,965
Electrical	4,813	5,108	5,353	6,390	6,633	7,451	7,210	7,648	8,134
Engineering science	528	588	582	534	625	654	659	737	1,145
Industrial	2,015	2,214	2,405	2,978	3,214	3,219	3,268	3,589	3,716
Mechanical	2,333	2,619	2,907	3,104	3,585	3,741	3,480	3,450	3,834
Metallurgical/materials	302	352	415	448	448	467	450	440	542
Mining	68	89	73	93	65	74	70	75	69
Nuclear	203	141	215	189	205	234	192	201	187
Petroleum	36	29	46	137	138	116	113	113	153
Engineering, n.e.c.	3,618	3,819	3,065	2,935	3,163	2,925	2,681	2,907	3,488
Sciences, total	51,701	51,388	52,415	54,304	54,616	54,144	55,229	57,553	61,922
Physical sciences	2,791	2,821	2,892	3,051	3,106	3,072	3,183	3,211	3,556
Astronomy	38	31	39	32	31	37	25	22	18
Chemistry	1,709	1,775	1,710	1,825	1,798	1,752	1,685	1,709	1,882
Physics	889	881	978	1,024	1,072	1,123	1,283	1,272	1,448
Physical sciences, n.e.c.	155	134	165	170	205	160	190	208	208
Earth, atmospheric, and ocean sciences	3,265	3,066	3,313	3,631	3,445	3,495	3,298	3,241	3,366
Atmospheric sciences	103	100	106	87	83	86	72	84	84
Geosciences	1,886	1,882	2,049	2,370	2,261	2,160	2,023	1,909	1,775
Oceanography	461	411	435	450	408	414	349	345	337
Earth, atmos., and ocean sci., n.e.c.	815	673	723	724	693	835	854	903	1,170
Mathematical sciences	4,086	4,175	4,064	4,002	4,104	4,030	4,196	4,254	4,596
Computer sciences	5,500	6,661	7,046	7,603	7,815	7,792	8,146	8,538	8,878
Agricultural sciences	2,403	2,436	2,294	2,241	2,080	1,987	1,977	2,096	2,205
Biological sciences	6,620	6,602	6,421	6,966	6,823	6,551	6,591	6,677	7,114
Anatomy	81	73	73	70	56	55	56	59	65
Biochemistry	159	147	125	120	173	134	133	198	170
Biology	2,890	2,875	2,816	3,087	3,016	2,848	2,928	2,843	3,023
Biometry/epidemiology	147	173	163	191	250	256	324	334	427
Biophysics	17	12	11	56	97	118	46	43	32
Botany	450	377	385	481	392	409	381	387	368
Cell biology	16	29	29	16	47	61	52	57	62
Ecology	116	141	189	130	133	139	136	174	203
Entomology/parasitology	199	169	173	203	199	182	178	171	177
Genetics	29	28	19	27	30	42	33	44	64
Microbiology	462	432	358	467	388	331	336	403	391
Nutrition	960	1,057	967	967	976	1,018	1,076	1,095	1,088
Pathology	245	236	233	238	208	183	141	162	182
Pharmacology	97	98	86	80	88	99	100	102	110
Physiology	195	142	142	174	161	169	155	116	131
Zoology	330	348	396	389	339	299	290	301	409
Biosciences, n.e.c.	227	253	256	290	270	208	176	188	232
Psychology	7,725	7,767	8,014	8,526	8,322	8,381	8,623	8,925	9,842
Social sciences	19,311	17,860	18,371	18,284	18,921	18,836	19,215	20,611	22,365
Agricultural economics	285	246	250	276	283	345	350	364	312
Anthropology	1,409	1,324	1,277	1,332	1,392	1,364	1,333	1,405	1,498
Economics (except agricultural)	2,245	2,100	2,147	2,032	2,087	1,935	1,989	2,017	2,112
Geography	992	831	833	786	926	902	966	1,133	1,171
History and philosophy of science	26	20	27	27	22	19	19	34	26
Linguistics	457	458	517	496	543	589	563	675	766
Political science	9,226	8,248	8,462	8,789	9,076	9,052	9,368	10,041	10,976
Sociology	1,713	1,436	1,441	1,436	1,455	1,470	1,571	1,707	1,704
Sociology/anthropology	195	198	189	186	194	193	242	238	263
Social sciences, n.e.c.	2,763	2,893	3,228	2,924	2,943	2,967	2,814	2,997	3,537
Total, health fields	13,996	14,073	14,863	15,276	16,798	17,344	18,008	18,945	20,165
Dentistry	77	41	43	48	84	105	112	94	91
Neurology	2	3	3	2	3	2	3	13	12
Nursing	6,671	7,502	8,260	8,161	9,100	9,149	9,599	10,113	11,113
Pharmaceutical sciences	266	266	276	331	348	348	361	398	419
Preventive medicine/community health	1,401	1,580	1,385	1,513	1,578	1,881	1,908	1,987	2,389
Speech pathology/audiology	2,899	2,157	2,046	2,012	2,100	1,897	1,910	1,920	2,143
Veterinary sciences	90	103	129	119	121	136	146	133	183
Clinical medicine, n.e.c.	430	380	363	420	393	421	416	317	302
Health related, n.e.c.	2,160	2,241	2,358	2,670	3,071	3,405	3,553	3,970	3,513

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-53. Part-time science and engineering graduate students in private institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	54,891	54,972	55,179	56,855	56,371	56,373	55,333	52,901	53,786
Total, science/engineering fields	47,998	47,709	47,306	48,785	48,315	48,637	47,183	44,530	44,792
Engineering, total	16,110	17,736	17,992	18,628	19,231	18,278	17,100	15,546	15,518
Aerospace	178	198	157	194	247	224	282	274	282
Agricultural	1	0	0	0	0	0	0	0	0
Biomedical	85	91	104	133	112	151	130	101	141
Chemical	594	602	589	544	517	578	429	365	331
Civil	1,889	1,980	1,836	1,739	1,689	1,418	1,432	1,265	1,481
Electrical	5,671	6,902	7,096	6,986	7,053	6,848	7,097	7,117	7,043
Engineering science	325	317	299	300	292	319	315	281	270
Industrial	4,024	4,073	3,977	4,570	5,020	5,216	4,182	3,210	3,134
Mechanical	1,867	1,962	2,250	2,178	2,354	2,388	2,315	2,340	2,202
Metallurgical/materials	344	391	370	402	375	445	401	419	432
Mining	8	7	5	5	5	4	4	5	34
Nuclear	56	10	1	1	1	1	6	10	11
Petroleum	74	88	84	68	37	58	30	46	33
Engineering, n.e.c.	994	1,115	1,224	1,508	1,529	628	477	313	324
Sciences, total	31,888	29,973	29,314	30,157	29,084	30,359	30,083	28,984	29,274
Physical sciences	1,368	1,440	1,320	1,275	1,390	1,252	1,215	1,224	1,208
Astronomy	4	2	4	4	4	4	1	5	3
Chemistry	1,019	1,003	923	904	950	837	805	851	870
Physics	345	435	393	366	414	383	391	348	315
Physical sciences, n.e.c.	0	0	0	1	22	28	18	20	20
Earth, atmospheric, and ocean sciences	473	429	480	475	395	484	438	469	498
Atmospheric sciences	7	11	25	5	23	42	39	18	17
Geosciences	214	236	228	221	174	172	158	187	159
Oceanography	37	40	68	69	26	62	55	63	62
Earth, atmos., and ocean sci., n.e.c.	215	142	159	180	172	208	186	201	260
Mathematical sciences	2,290	2,258	2,095	1,778	1,488	1,494	1,422	1,423	1,418
Computer sciences	5,141	6,268	7,177	8,140	8,300	8,773	9,045	8,300	8,757
Agricultural sciences	20	18	18	42	20	34	37	16	17
Biological sciences	2,701	2,341	2,270	2,210	2,215	2,112	1,953	1,956	2,122
Anatomy	56	43	20	32	24	32	27	20	24
Biochemistry	115	80	102	83	72	75	57	74	47
Biology	1,463	1,186	1,118	1,114	1,114	975	791	782	895
Biometry/epidemiology	100	106	90	173	136	164	175	207	275
Biophysics	0	1	3	4	1	5	2	2	5
Botany	25	30	26	18	15	19	17	26	45
Cell biology	17	15	18	7	14	17	3	0	15
Ecology	25	22	22	22	22	28	56	56	84
Entomology/parasitology	1	1	1	1	0	0	1	1	2
Genetics	37	43	54	36	61	64	49	38	47
Microbiology	151	126	142	121	115	107	99	95	118
Nutrition	279	306	292	307	290	256	276	290	251
Pathology	194	158	152	81	120	124	133	106	98
Pharmacology	47	38	38	37	35	51	40	30	34
Physiology	58	74	49	51	54	48	57	33	29
Zoology	37	30	44	28	24	27	25	14	18
Biosciences, n.e.c.	96	82	99	95	118	120	145	182	135
Psychology	6,545	6,571	6,952	7,013	6,708	7,010	7,286	7,207	7,825
Social sciences	13,350	10,648	9,002	9,224	8,568	9,200	8,687	8,389	7,429
Agricultural economics	4	2	2	1	1	1	0	0	0
Anthropology	434	380	345	383	352	363	336	312	255
Economics (except agricultural)	2,011	1,847	1,628	1,495	1,094	1,171	1,091	1,125	974
Geography	35	27	27	28	21	31	27	20	18
History and philosophy of science	7	4	4	7	7	8	3	5	4
Linguistics	189	189	324	222	208	244	172	212	181
Political science	6,968	6,359	4,661	5,052	4,765	5,549	5,116	4,974	4,250
Sociology	658	584	554	487	454	449	392	382	373
Sociology/anthropology	281	331	280	283	243	229	183	151	167
Social sciences, n.e.c.	2,763	925	1,177	1,256	1,423	1,155	1,367	1,208	1,207
Total, health fields	6,893	7,263	7,873	8,070	8,056	7,736	8,150	8,371	8,994
Dentistry	32	34	39	42	29	43	43	54	38
Neurology	0	0	1	0	7	17	7	8	10
Nursing	2,971	3,239	3,614	3,756	3,446	3,406	3,364	3,712	4,081
Pharmaceutical sciences	550	607	472	430	492	435	345	402	407
Preventive medicine/community health ...	1,359	1,338	1,501	1,642	1,569	1,517	1,546	1,487	1,372
Speech pathology/audiology	340	428	439	528	464	506	513	535	625
Veterinary sciences	3	0	3	3	3	3	0	0	8
Clinical medicine, n.e.c.	232	174	169	147	158	149	162	121	106
Health related, n.e.c.	1,406	1,443	1,635	1,522	1,888	1,660	2,170	2,052	2,347

1/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-54. Part-time science and engineering graduate students in all institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982 1/	1983	1984 2/	1985 2/	1986 2/	1987 2/	1988	1989	1990
Total, all surveyed fields	138,826	140,313	142,581	148,475	150,917	152,060	151,789	153,952	163,107
Total U.S. citizens	NA	128,884	130,909	136,779	138,725	138,695	137,959	138,741	147,153
Black, non-Hispanic	5,671	6,312	6,146	6,106	6,107	6,049	6,440	6,460	7,224
American Indian/Alaskan Native	441	412	352	319	328	338	432	404	502
Asian/Pacific Islander	3,631	4,113	4,215	5,186	5,302	5,923	6,267	6,453	7,089
Hispanic	3,660	4,401	4,167	4,038	3,967	4,301	4,419	4,313	4,736
White, non-Hispanic	98,559	100,963	101,221	105,146	106,876	108,697	109,926	110,162	117,624
Other or unknown	NA	12,683	14,808	15,984	16,145	13,387	10,475	10,949	9,978
Non-U.S. citizens	NA	11,429	11,672	11,696	12,192	13,365	13,830	15,211	15,954
Sciences, total	83,589	81,361	81,729	84,461	83,700	84,503	85,312	86,537	91,196
Total U.S. citizens	NA	75,335	75,341	78,164	77,185	77,148	77,835	78,393	82,789
Black, non-Hispanic	4,168	4,414	4,188	4,232	4,210	4,144	4,429	4,447	4,920
American Indian/Alaskan Native	288	251	201	209	204	209	286	263	369
Asian/Pacific Islander	1,946	2,010	2,102	2,502	2,532	2,841	3,058	3,181	3,569
Hispanic	2,797	3,137	2,876	2,732	2,749	2,749	2,809	2,772	3,059
White, non-Hispanic	59,550	58,756	57,707	60,007	59,471	60,691	62,274	62,522	66,146
Other or unknown	NA	6,767	8,267	8,482	8,140	6,714	5,979	5,528	4,995
Non-U.S. citizens	NA	6,026	6,388	6,297	6,515	7,355	7,477	8,144	8,407
Physical sciences	4,159	4,261	4,212	4,326	4,496	4,324	4,398	4,435	4,764
Total U.S. citizens	NA	3,832	3,767	3,868	3,966	3,724	3,770	3,757	3,928
Black, non-Hispanic	135	163	159	156	133	130	127	154	171
American Indian/Alaskan Native	18	5	12	7	13	10	9	5	7
Asian/Pacific Islander	165	159	144	147	146	151	174	157	179
Hispanic	109	114	73	69	80	77	75	99	112
White, non-Hispanic	2,947	3,185	3,166	3,119	3,197	3,000	3,157	3,098	3,155
Other or unknown	NA	206	213	370	397	356	228	244	304
Non-U.S. citizens	NA	429	445	458	530	600	628	678	836
Earth, atmospheric, and ocean sciences ..	3,738	3,495	3,793	4,106	3,840	3,979	3,736	3,710	3,864
Total U.S. citizens	NA	3,321	3,584	3,903	3,635	3,724	3,473	3,434	3,615
Black, non-Hispanic	27	29	24	37	33	27	31	29	37
American Indian/Alaskan Native	5	3	5	4	4	4	6	6	5
Asian/Pacific Islander	72	84	43	38	28	38	37	46	70
Hispanic	59	81	70	57	60	45	44	41	54
White, non-Hispanic	3,005	3,002	3,217	3,378	3,196	3,336	3,145	3,127	3,342
Other or unknown	NA	122	225	389	314	274	210	185	107
Non-U.S. citizens	NA	174	209	203	205	255	263	276	249
Mathematical sciences	6,376	6,433	6,159	5,780	5,592	5,524	5,618	5,677	6,014
Total U.S. citizens	NA	5,720	5,504	5,253	4,926	4,888	4,967	4,994	5,367
Black, non-Hispanic	183	240	207	212	206	185	205	209	248
American Indian/Alaskan Native	22	20	19	16	23	27	16	14	7
Asian/Pacific Islander	194	227	261	212	239	267	287	275	329
Hispanic	116	126	116	97	105	74	109	84	107
White, non-Hispanic	4,587	4,708	4,401	4,162	3,671	3,761	3,884	3,842	4,174
Other or unknown	NA	399	500	554	682	574	466	570	502
Non-U.S. citizens	NA	713	655	527	666	636	651	683	647
Computer sciences	10,641	12,929	14,223	15,743	16,115	16,565	17,191	16,838	17,635
Total U.S. citizens	NA	11,344	12,399	13,835	14,243	14,322	14,941	14,181	14,846
Black, non-Hispanic	330	357	357	405	397	453	499	494	618
American Indian/Alaskan Native	16	11	11	11	10	12	28	24	24
Asian/Pacific Islander	525	541	706	1,118	1,194	1,401	1,550	1,633	1,660
Hispanic	144	177	177	351	284	383	355	347	375
White, non-Hispanic	7,235	8,429	8,638	9,563	9,839	10,514	11,241	10,233	10,972
Other or unknown	NA	1,829	2,510	2,387	2,519	1,559	1,268	1,450	1,197
Non-U.S. citizens	NA	1,585	1,824	1,908	1,872	2,243	2,250	2,657	2,789
Agricultural sciences	2,423	2,454	2,312	2,283	2,100	2,021	2,014	2,112	2,222
Total U.S. citizens	NA	2,230	2,097	2,025	1,905	1,768	1,755	1,847	1,909
Black, non-Hispanic	22	21	31	36	33	34	25	28	24
American Indian/Alaskan Native	13	12	7	7	13	12	6	6	3
Asian/Pacific Islander	21	20	13	26	16	14	25	25	30
Hispanic	46	41	50	53	49	36	41	42	31
White, non-Hispanic	1,948	1,977	1,856	1,738	1,674	1,575	1,603	1,683	1,714
Other or unknown	NA	159	140	165	126	96	49	63	107
Non-U.S. citizens	NA	224	215	258	195	253	259	265	313

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-54. Part-time science and engineering graduate students in all institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982 1/	1983	1984 2/	1985 2/	1986 2/	1987 2/	1988	1989	1990
Biological sciences	9,321	8,943	8,691	9,176	9,038	8,663	8,544	8,633	9,236
Total U.S. citizens	NA	8,390	8,122	8,592	8,385	7,960	7,812	7,834	8,345
Black, non-Hispanic	344	326	349	373	343	293	338	328	320
American Indian/Alaskan Native	25	31	13	15	18	14	27	15	28
Asian/Pacific Islander	225	245	194	214	235	242	245	259	295
Hispanic	192	192	173	179	204	207	220	240	259
White, non-Hispanic	7,082	6,983	6,890	7,182	6,893	6,527	6,622	6,569	7,036
Other or unknown	NA	613	503	629	692	677	360	423	407
Non-U.S. citizens	NA	553	569	584	653	703	732	799	891
Psychology	14,270	14,338	14,966	15,539	15,030	15,391	15,909	16,132	17,667
Total U.S. citizens	NA	13,998	14,622	15,203	14,696	15,064	15,577	15,841	17,325
Black, non-Hispanic	622	771	822	755	725	752	801	840	998
American Indian/Alaskan Native	60	43	34	47	36	40	58	51	85
Asian/Pacific Islander	122	164	161	178	174	173	172	179	235
Hispanic	439	680	755	605	568	569	610	496	745
White, non-Hispanic	11,114	11,320	11,507	12,256	12,088	12,510	13,119	13,311	14,505
Other or unknown	NA	1,020	1,343	1,362	1,105	1,020	817	964	757
Non-U.S. citizens	NA	340	344	336	334	327	332	291	342
Social sciences	32,661	28,508	27,373	27,508	27,489	28,036	27,902	29,000	29,794
Total U.S. citizens	NA	26,500	25,246	25,485	25,429	25,698	25,540	26,505	27,454
Black, non-Hispanic	2,505	2,507	2,239	2,258	2,340	2,270	2,403	2,365	2,504
American Indian/Alaskan Native	129	126	100	102	93	89	130	122	141
Asian/Pacific Islander	622	570	580	569	500	555	568	607	571
Hispanic	1,692	1,726	1,462	1,321	1,278	1,358	1,355	1,423	1,376
White, non-Hispanic	21,632	19,152	18,032	18,609	18,913	19,268	19,503	20,359	21,248
Other or unknown	NA	2,419	2,833	2,626	2,305	2,158	1,581	1,629	1,614
Non-U.S. citizens	NA	2,008	2,127	2,023	2,060	2,338	2,362	2,495	2,340
Engineering, total	34,348	37,616	38,116	40,668	42,363	42,477	40,319	40,099	42,752
Total U.S. citizens	NA	32,868	33,415	35,889	37,333	37,086	34,567	33,678	35,961
Black, non-Hispanic	625	748	775	718	740	717	700	693	849
American Indian/Alaskan Native	95	83	82	54	54	58	66	59	91
Asian/Pacific Islander	1,328	1,695	1,705	2,252	2,359	2,668	2,687	2,719	3,085
Hispanic	498	692	789	743	788	883	784	705	846
White, non-Hispanic	21,695	24,542	24,618	26,178	27,123	28,049	26,560	25,710	27,188
Other or unknown	NA	5,108	5,446	5,944	6,269	6,711	3,770	3,792	3,902
Non-U.S. citizens	NA	4,748	4,701	4,779	5,030	5,391	5,752	6,421	6,791
Chemical engineering	1,581	1,694	1,639	1,604	1,418	1,437	1,259	1,178	1,281
Total U.S. citizens	NA	1,418	1,410	1,392	1,228	1,272	1,115	998	1,114
Black, non-Hispanic	25	24	19	19	24	24	25	19	19
American Indian/Alaskan Native	5	2	2	3	3	0	2	5	4
Asian/Pacific Islander	93	76	74	77	57	70	60	64	80
Hispanic	38	29	44	33	30	26	25	18	31
White, non-Hispanic	1,200	1,224	1,164	1,047	1,040	1,061	947	861	952
Other or unknown	NA	63	107	214	74	91	56	31	28
Non-U.S. citizens	NA	276	229	212	190	165	144	180	167
Civil engineering	4,748	5,114	5,114	5,156	5,005	5,067	4,865	4,945	5,446
Total U.S. citizens	NA	4,144	4,232	4,236	3,983	4,016	3,792	3,977	4,285
Black, non-Hispanic	65	81	92	82	79	88	88	93	112
American Indian/Alaskan Native	16	11	10	7	13	4	9	8	20
Asian/Pacific Islander	196	206	183	159	173	240	277	273	337
Hispanic	90	121	123	110	98	105	109	121	120
White, non-Hispanic	2,600	3,107	3,132	3,061	2,893	2,963	3,043	3,137	3,326
Other or unknown	NA	618	692	817	727	616	266	345	370
Non-U.S. citizens	NA	970	882	920	1,022	1,051	1,073	968	1,161
Electrical engineering	10,484	12,010	12,449	13,376	13,686	14,299	14,307	14,765	15,177
Total U.S. citizens	NA	10,268	10,902	11,609	11,871	12,289	12,362	12,364	12,572
Black, non-Hispanic	159	167	196	228	154	181	218	239	286
American Indian/Alaskan Native	24	23	19	14	10	13	23	18	31
Asian/Pacific Islander	447	711	717	1,046	1,080	1,206	1,247	1,344	1,476
Hispanic	174	214	222	230	214	264	255	255	284
White, non-Hispanic	6,007	6,938	7,107	7,832	7,677	8,410	8,710	8,813	8,849
Other or unknown	NA	2,215	2,641	2,259	2,736	2,215	1,909	1,695	1,646
Non-U.S. citizens	NA	1,742	1,547	1,767	1,815	2,010	1,945	2,401	2,605

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-54. Part-time science and engineering graduate students in all institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982 1/	1983	1984 2/	1985 2/	1986 2/	1987 2/	1988	1989	1990
Industrial engineering	6,039	6,287	6,382	7,548	8,234	8,435	7,450	6,799	6,850
Total U.S. citizens	NA	5,920	5,989	7,158	7,802	7,811	6,817	6,099	6,092
Black, non-Hispanic	186	250	248	186	223	211	190	177	189
American Indian/Alaskan Native	16	14	12	6	8	21	11	9	17
Asian/Pacific Islander	165	138	152	212	232	279	277	258	275
Hispanic	86	166	231	171	180	192	174	128	156
White, non-Hispanic	4,259	4,678	4,566	5,792	6,075	6,623	5,801	5,037	4,852
Other or unknown	NA	674	780	791	1,084	485	364	490	603
Non-U.S. citizens	NA	367	393	390	432	624	633	700	758
Mechanical engineering	4,200	4,581	5,157	5,282	5,939	6,129	5,795	5,790	6,036
Total U.S. citizens	NA	3,986	4,417	4,512	5,126	5,290	4,882	4,834	5,037
Black, non-Hispanic	42	59	78	77	65	85	78	80	95
American Indian/Alaskan Native	11	8	21	14	10	11	4	7	9
Asian/Pacific Islander	155	212	222	343	330	359	315	332	334
Hispanic	43	61	59	86	143	174	107	94	120
White, non-Hispanic	2,783	3,220	3,480	3,690	3,842	3,932	3,831	3,702	3,834
Other or unknown	NA	426	557	302	736	729	547	619	645
Non-U.S. citizens	NA	595	740	770	813	839	913	956	999
Other engineering	7,296	7,930	7,375	7,702	8,081	7,110	6,643	6,622	7,962
Total U.S. citizens	NA	7,132	6,465	6,982	7,323	6,408	5,599	5,406	6,861
Black, non-Hispanic	148	167	142	126	195	128	101	85	148
American Indian/Alaskan Native	23	25	18	11	10	9	17	12	10
Asian/Pacific Islander	272	352	357	415	487	514	511	448	583
Hispanic	67	101	110	113	123	122	114	89	135
White, non-Hispanic	4,846	5,375	5,169	4,756	5,596	5,060	4,228	4,160	5,375
Other or unknown	NA	1,112	669	1,561	912	575	628	612	610
Non-U.S. citizens	NA	798	910	720	758	702	1,044	1,216	1,101
Total, health fields	20,889	21,336	22,736	23,346	24,854	25,080	26,158	27,316	29,159
Total U.S. citizens	NA	20,681	22,153	22,726	24,207	24,461	25,557	26,670	28,403
Black, non-Hispanic	878	1,150	1,183	1,156	1,157	1,188	1,311	1,320	1,455
American Indian/Alaskan Native	58	78	69	56	70	71	80	102	111
Asian/Pacific Islander	357	408	408	432	411	414	522	553	635
Hispanic	365	572	502	563	551	669	826	836	831
White, non-Hispanic	17,314	17,665	18,896	18,961	20,282	20,157	21,092	22,230	24,290
Other or unknown	NA	808	1,095	1,558	1,736	1,962	1,726	1,629	1,081
Non-U.S. citizens	NA	655	583	620	647	619	601	646	756

1/ Citizenship data are not available prior to 1983.

2/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-55. Part-time science and engineering graduate students with U.S. citizenship in all institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	128,412	128,884	130,909	136,779	138,725	138,695	137,959	138,741	147,153
Total, science/engineering fields	108,256	108,203	108,756	114,053	114,518	114,234	112,402	112,071	118,750
Engineering, total	30,563	32,868	33,415	35,889	37,333	37,086	34,567	33,678	35,961
Aerospace	381	511	527	580	707	690	701	704	900
Agricultural	115	154	141	140	127	107	118	124	101
Biomedical	163	186	198	211	225	239	234	246	251
Chemical	1,392	1,418	1,410	1,392	1,228	1,272	1,115	998	1,114
Civil	3,914	4,144	4,232	4,236	3,983	4,016	3,792	3,977	4,285
Electrical	9,294	10,268	10,902	11,609	11,871	12,289	12,362	12,364	12,572
Engineering science	800	820	829	769	872	888	871	687	1,068
Industrial	5,700	5,920	5,989	7,158	7,802	7,811	6,817	6,099	6,092
Mechanical	3,640	3,986	4,417	4,512	5,126	5,290	4,882	4,834	5,037
Metallurgical/materials	576	673	696	769	731	826	733	748	823
Mining	67	73	72	87	56	59	61	65	60
Nuclear	241	128	178	168	189	205	170	180	165
Petroleum	77	76	121	178	148	152	125	134	148
Engineering, n.e.c.	4,203	4,511	3,703	4,080	4,268	3,242	2,586	2,518	3,345
Sciences, total	77,693	75,335	75,341	78,164	77,185	77,148	77,835	78,393	82,789
Physical sciences	3,699	3,832	3,767	3,868	3,966	3,724	3,770	3,757	3,928
Astronomy	41	30	38	32	32	31	20	21	16
Chemistry	2,420	2,489	2,359	2,457	2,425	2,237	2,160	2,188	2,250
Physics	1,108	1,184	1,208	1,211	1,296	1,285	1,397	1,337	1,456
Physical sciences, n.e.c.	130	129	162	168	213	171	193	211	206
Earth, atmospheric, and ocean sciences	3,501	3,321	3,584	3,903	3,635	3,724	3,473	3,434	3,615
Atmospheric sciences	98	102	112	79	99	108	95	88	84
Geosciences	1,972	2,030	2,172	2,510	2,330	2,220	2,060	1,971	1,816
Oceanography	467	426	471	486	400	428	376	367	375
Earth, atmos., and ocean sci., n.e.c.	964	763	829	828	806	968	942	1,008	1,340
Mathematical sciences	5,733	5,720	5,504	5,253	4,926	4,888	4,967	4,994	5,367
Computer sciences	9,458	11,344	12,399	13,835	14,243	14,322	14,941	14,181	14,846
Agricultural sciences	2,206	2,230	2,097	2,025	1,905	1,768	1,755	1,847	1,909
Biological sciences	8,742	8,390	8,122	8,592	8,385	7,960	7,812	7,834	8,345
Anatomy	133	109	89	101	76	84	81	73	78
Biochemistry	237	192	207	186	200	176	163	210	169
Biology	4,172	3,897	3,740	3,996	3,913	3,603	3,487	3,391	3,652
Biometry/epidemiology	230	259	236	338	345	386	446	487	638
Biophysics	15	12	12	57	79	98	45	45	34
Botany	420	358	367	442	359	359	333	337	354
Cell biology	33	42	45	20	54	72	47	47	64
Ecology	137	147	194	137	146	161	179	217	253
Entomology/parasitology	180	154	158	181	177	154	145	138	135
Genetics	61	64	67	57	78	95	92	75	81
Microbiology	560	507	444	500	459	401	408	435	430
Nutrition	1,111	1,251	1,148	1,178	1,159	1,146	1,219	1,245	1,198
Pathology	412	362	362	298	301	281	256	251	261
Pharmacology	132	130	121	110	111	133	122	113	126
Physiology	247	219	186	218	207	207	202	136	138
Zoology	352	362	401	398	338	297	283	282	383
Biosciences, n.e.c.	310	325	345	375	383	307	304	352	351
Psychology	13,955	13,998	14,622	15,203	14,696	15,064	15,577	15,841	17,325
Social sciences	30,399	26,500	25,246	25,485	25,429	25,698	25,540	26,505	27,454
Agricultural economics	228	189	199	205	224	239	236	246	191
Anthropology	1,667	1,625	1,545	1,619	1,648	1,647	1,590	1,609	1,656
Economics (except agricultural)	3,688	3,275	3,053	2,900	2,611	2,466	2,453	2,434	2,429
Geography	938	803	786	769	884	864	928	1,090	1,122
History and philosophy of science	32	23	31	61	26	25	21	38	30
Linguistics	565	558	700	589	619	682	588	722	790
Political science	15,474	14,012	12,528	13,262	13,143	13,767	13,705	14,208	14,514
Sociology	2,123	1,895	1,795	1,713	1,719	1,716	1,733	1,825	1,823
Sociology/anthropology	439	510	434	436	412	386	392	360	389
Social sciences, n.e.c.	5,245	3,610	4,175	3,951	4,143	3,906	3,894	3,973	4,510
Total, health fields	20,156	20,681	22,153	22,726	24,207	24,461	25,557	26,670	28,403
Dentistry	95	67	79	83	110	134	143	134	108
Neurology	2	3	3	2	10	19	10	18	19
Nursing	9,498	10,622	11,770	11,795	12,446	12,446	12,852	13,718	15,083
Pharmaceutical sciences	713	724	641	669	703	644	598	694	684
Preventive medicine/community health	2,565	2,614	2,782	2,971	2,965	3,231	3,285	3,296	3,532
Speech pathology/audiology	3,168	2,510	2,420	2,461	2,493	2,352	2,374	2,391	2,699
Veterinary sciences	79	89	113	115	109	125	134	122	171
Clinical medicine, n.e.c.	623	522	504	544	509	536	550	411	379
Health related, n.e.c.	3,413	3,530	3,841	4,086	4,862	4,974	5,611	5,886	5,728

1/ Includes estimated data for master's-granting institutions which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-56. Part-time science and engineering graduate students without U.S. citizenship in all institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	10,414	11,429	11,672	11,696	12,192	13,365	13,830	15,211	15,954
Total, science/engineering fields	9,681	10,774	11,089	11,076	11,545	12,746	13,229	14,565	15,198
Engineering, total	3,785	4,748	4,701	4,779	5,030	5,391	5,752	6,421	6,791
Aerospace	38	57	64	84	63	59	84	83	96
Agricultural	21	49	40	34	46	32	42	56	45
Biomedical	22	27	26	33	30	58	66	62	81
Chemical	189	276	229	212	190	165	144	180	167
Civil	834	970	882	920	1,022	1,051	1,073	968	1,161
Electrical	1,190	1,742	1,547	1,767	1,815	2,010	1,945	2,401	2,605
Engineering science	53	85	52	65	45	85	103	131	147
Industrial	339	367	393	390	432	624	633	700	758
Mechanical	560	595	740	770	813	839	913	956	999
Metallurgical/materials	70	70	89	11	92	86	118	111	151
Mining	9	23	6	11	14	19	13	15	33
Nuclear	18	23	38	17	30	28	31	31	33
Petroleum	33	41	9	27	22	22	18	25	38
Engineering, n.e.c.	409	423	586	363	424	311	572	702	467
Sciences, total	5,896	6,026	6,388	6,297	6,515	7,355	7,477	8,144	8,407
Physical sciences	460	429	445	458	530	600	628	678	836
Astronomy	1	3	5	4	3	10	6	6	5
Chemistry	308	289	274	272	323	352	330	372	502
Physics	126	132	163	179	190	221	277	283	307
Physical sciences, n.e.c.	25	5	3	3	14	17	15	17	22
Earth, atmospheric, and ocean sciences	237	174	209	203	205	255	263	276	249
Atmospheric sciences	12	9	19	13	7	20	16	14	17
Geosciences	128	88	105	81	105	112	121	125	118
Oceanography	31	25	32	33	34	48	28	41	24
Earth, atmos., and ocean sci., n.e.c.	66	52	53	76	59	75	98	96	90
Mathematical sciences	643	713	655	527	666	636	651	683	647
Computer sciences	1,183	1,585	1,824	1,908	1,872	2,243	2,250	2,657	2,789
Agricultural sciences	217	224	215	258	195	253	259	265	313
Biological sciences	579	553	569	584	653	703	732	799	891
Anatomy	4	7	4	17	4	3	2	6	11
Biochemistry	37	35	20	45	33	27	27	62	48
Biology	181	164	194	205	217	220	232	234	266
Biometry/epidemiology	17	20	17	26	41	34	53	54	64
Biophysics	52	1	2	3	19	22	3	3	3
Botany	52	49	44	57	48	69	65	76	59
Cell biology	4	16	17	15	9	6	13	10	13
Ecology	20	16	16	23	22	28	34	34	44
Entomology/parasitology	5	7	6	6	13	11	10	7	10
Genetics	53	51	56	68	44	37	57	63	79
Microbiology	128	112	111	96	107	128	133	140	141
Nutrition	27	32	23	21	27	26	18	17	19
Pathology	12	6	3	7	12	17	18	19	18
Physiology	6	9	5	7	8	10	10	13	22
Zoology	15	16	39	19	25	29	32	33	44
Biosciences, n.e.c.	13	10	10	10	5	21	17	18	16
Psychology	315	340	344	336	334	327	332	291	342
Social sciences	2,262	2,008	2,127	2,023	2,060	2,338	2,362	2,495	2,340
Agricultural economics	61	59	53	73	60	107	114	118	121
Anthropology	176	79	77	96	96	80	79	108	97
Economics (except agricultural)	568	672	722	627	570	640	627	708	657
Geography	89	55	74	43	63	69	65	63	67
History and philosophy of science	1	1	0	4	3	2	1	1	0
Linguistics	81	89	141	129	132	151	147	165	157
Political science	720	595	595	579	698	834	779	807	712
Sociology	248	231	200	210	190	203	230	264	254
Sociology/anthropology	37	19	35	33	25	36	33	29	41
Social sciences, n.e.c.	281	208	230	229	223	216	287	232	234
Total, health fields	733	655	583	620	647	619	601	646	756
Dentistry	14	8	3	7	3	14	12	14	21
Neurology	0	0	1	0	0	0	0	3	3
Nursing	144	119	104	122	100	109	111	107	111
Pharmaceutical sciences	103	149	107	92	137	139	108	106	142
Preventive medicine/community health	195	104	104	184	182	167	169	178	229
Speech pathology/audiology	71	75	65	79	71	51	49	64	69
Veterinary sciences	14	14	19	7	15	14	12	11	20
Clinical medicine, n.e.c.	39	32	28	23	42	34	28	27	29
Health related, n.e.c.	153	154	152	106	97	91	112	136	132

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-57. Science and engineering graduate students in historically black colleges and universities by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	3,269	3,446	3,875	3,587	3,454	3,202	3,474	3,373	3,628
Total, science/engineering fields	3,103	3,269	3,693	3,404	3,290	3,042	3,319	3,172	3,419
Engineering, total	267	311	405	342	374	335	380	383	394
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0
Civil	44	47	65	46	47	52	57	72	60
Electrical	64	94	131	121	61	129	111	129	132
Engineering science	0	0	0	0	0	0	0	0	0
Industrial	8	23	37	20	0	10	26	26	28
Mechanical	30	47	93	81	63	65	102	72	100
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	121	100	79	74	203	79	84	84	74
Sciences, total	2,836	2,958	3,288	3,062	2,916	2,707	2,939	2,789	3,025
Physical sciences	288	319	347	320	299	300	328	336	340
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	226	250	269	228	196	197	204	233	203
Physics	58	57	65	72	84	100	112	94	130
Physical sciences, n.e.c.	4	12	13	20	19	3	12	9	7
Earth, atmospheric, and ocean sciences	31	32	39	34	19	16	36	27	48
Atmospheric sciences	0	0	0	0	0	0	0	0	0
Geosciences	13	16	23	17	19	16	13	2	6
Oceanography	0	0	0	0	0	0	23	25	37
Earth, atmos., and ocean sci., n.e.c.	18	16	16	17	0	0	0	0	5
Mathematical sciences	206	235	266	240	265	259	252	255	179
Computer sciences	232	271	320	304	279	229	277	290	404
Agricultural sciences	87	82	109	66	55	52	64	66	131
Biological sciences	605	593	536	479	447	409	414	447	460
Anatomy	10	8	6	11	9	6	11	9	8
Biochemistry	22	18	19	11	14	12	15	15	15
Biology	334	323	301	267	229	207	180	206	184
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	45	44	17	16	37	32	38	43	68
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	25	27	29	30	32	25	26	26	22
Microbiology	24	26	24	21	14	10	7	8	15
Nutrition	36	20	36	34	34	35	43	44	42
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	35	36	22	15	17	12	10	8	8
Physiology	14	19	27	27	20	22	22	24	35
Zoology	41	40	25	22	22	25	25	22	28
Biosciences, n.e.c.	19	32	28	22	19	25	39	42	58
Psychology	227	384	436	404	419	374	443	440	448
Social sciences	1,160	1,042	1,235	1,215	1,133	1,068	1,125	928	1,015
Agricultural economics	39	53	62	63	59	46	48	49	39
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	284	106	135	161	147	123	132	99	86
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	24	43	137	129	129	144	136	137	134
Political science	286	297	392	345	389	367	399	212	262
Sociology	217	214	173	226	179	195	185	180	211
Sociology/anthropology	105	113	113	80	60	62	58	58	61
Social sciences, n.e.c.	205	216	223	211	170	131	167	193	222
Total, health fields	166	177	182	183	164	160	155	201	209
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	63	68	59	46	38	50	45	41	43
Pharmaceutical sciences	12	13	13	16	15	14	22	42	41
Preventive medicine/community health	8	11	0	0	0	0	0	0	0
Speech pathology/audiology	58	59	81	84	83	67	62	42	45
Veterinary sciences	25	26	26	27	23	20	17	19	19
Clinical medicine, n.e.c.	0	0	3	0	0	0	0	57	61
Health related, n.e.c.	0	0	0	10	5	9	9	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-58. Male science and engineering graduate students in historically black colleges and universities by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	1,899	1,981	2,322	2,145	2,052	1,958	2,092	1,950	2,024
Total, science/engineering fields	1,867	1,949	2,288	2,107	2,017	1,928	2,042	1,874	1,950
Engineering, total	242	274	364	306	315	282	319	324	307
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0
Civil	32	33	54	37	27	30	30	55	48
Electrical	61	87	121	110	50	112	99	113	93
Engineering science	0	0	0	0	0	0	0	0	0
Industrial	8	18	32	13	0	8	21	17	13
Mechanical	29	45	86	74	60	59	93	66	89
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	112	91	71	72	178	73	76	73	64
Sciences, total	1,625	1,675	1,924	1,801	1,702	1,646	1,723	1,550	1,643
Physical sciences	182	197	235	207	214	216	235	231	229
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	135	145	171	135	136	128	135	149	122
Physics	46	47	58	64	71	86	94	80	105
Physical sciences, n.e.c.	1	5	6	8	7	2	6	2	2
Earth, atmospheric, and ocean sciences	19	16	20	27	10	11	19	15	26
Atmospheric sciences	0	0	0	0	0	0	0	0	0
Geosciences	7	6	9	12	10	11	9	2	4
Oceanography	0	0	0	0	0	0	10	13	20
Earth, atmos., and ocean sci., n.e.c.	12	10	11	15	0	0	0	0	2
Mathematical sciences	111	139	162	140	160	178	168	163	109
Computer sciences	150	185	221	220	196	171	181	183	250
Agricultural sciences	74	68	102	51	46	44	56	57	104
Biological sciences	316	321	274	222	225	209	213	207	220
Anatomy	5	5	4	4	3	2	5	3	2
Biochemistry	11	11	12	6	9	10	14	13	12
Biology	177	173	151	114	92	92	89	93	81
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	10	9	11	7	26	20	20	22	39
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	6	12	11	13	14	9	11	8	9
Microbiology	11	8	8	9	6	4	3	4	8
Nutrition	25	16	29	25	25	24	17	26	26
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	21	21	13	4	8	4	4	5	4
Physiology	10	14	13	16	15	17	14	15	19
Zoology	31	30	14	14	16	17	17	10	8
Biosciences, n.e.c.	9	22	8	10	11	10	19	13	12
Psychology	97	177	194	177	167	149	159	146	159
Social sciences	676	572	716	757	684	668	692	548	546
Agricultural economics	33	44	53	55	55	41	42	42	31
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	195	76	101	131	114	95	106	74	65
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	3	10	50	43	43	75	70	54	53
Political science	164	162	252	227	250	250	264	156	160
Sociology	107	105	63	117	77	92	92	85	94
Sociology/anthropology	41	41	53	43	27	28	26	19	20
Social sciences, n.e.c.	133	134	144	141	118	87	92	118	123
Total, health fields	32	32	34	38	35	30	50	76	74
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	0	0	1	0	1	0	0	1	1
Pharmaceutical sciences	0	9	9	11	10	9	14	25	23
Preventive medicine/community health	0	7	0	0	2	0	0	0	0
Speech pathology/audiology	0	3	3	2	2	0	19	0	5
Veterinary sciences	16	12	20	22	20	17	13	15	14
Clinical medicine, n.e.c.	0	0	1	0	0	0	0	35	31
Health related, n.e.c.	0	0	0	3	2	4	4	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table 8-59. Female science and engineering graduate students in historically black colleges and universities by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	1,370	1,465	1,553	1,442	1,402	1,244	1,382	1,423	1,604
Total, science/engineering fields	1,236	1,320	1,405	1,297	1,273	1,114	1,277	1,298	1,469
Engineering, total	25	37	41	36	59	53	61	59	87
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0
Civil	12	14	11	9	20	22	27	17	12
Electrical	3	7	10	11	11	17	12	16	39
Engineering science	0	0	0	0	0	0	0	0	0
Industrial	0	5	5	7	0	0	5	9	15
Mechanical	1	2	7	7	0	2	9	6	11
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	9	9	8	2	25	6	8	11	10
Sciences, total	1,211	1,283	1,364	1,261	1,214	1,061	1,216	1,239	1,382
Physical sciences	106	122	112	113	85	84	93	105	111
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	91	105	98	93	60	69	69	84	81
Physics	12	10	7	8	13	14	18	14	25
Physical sciences, n.e.c.	3	7	7	12	12	1	6	7	5
Earth, atmospheric, and ocean sciences	12	16	19	7	9	5	17	12	22
Atmospheric sciences	0	0	0	0	0	0	0	0	0
Geosciences	6	10	14	5	9	5	4	0	2
Oceanography	0	0	0	0	0	0	13	12	17
Earth, atmos., and ocean sci., n.e.c.	6	6	5	2	0	0	0	0	3
Mathematical sciences	95	96	104	100	105	81	84	92	70
Computer sciences	82	86	99	84	83	58	96	107	154
Agricultural sciences	13	14	7	15	9	8	8	9	27
Biological sciences	289	272	262	257	222	200	201	240	240
Anatomy	5	7	7	7	6	4	6	6	6
Biochemistry	11	7	7	5	5	2	1	2	3
Biology	157	150	150	153	137	115	91	113	103
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	35	35	6	9	11	12	18	21	29
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	19	15	18	17	18	16	15	18	13
Microbiology	13	13	16	12	8	6	4	4	7
Nutrition	11	4	7	9	9	11	26	20	16
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	14	15	10	11	9	8	6	6	4
Physiology	4	5	9	11	5	5	8	9	13
Zoology	10	10	15	11	5	5	8	12	20
Biosciences, n.e.c.	10	10	20	12	8	15	20	29	26
Psychology	130	207	242	227	252	225	284	294	289
Social sciences	484	470	519	458	449	400	433	380	469
Agricultural economics	6	9	9	8	4	5	6	7	8
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	89	30	34	30	33	28	26	25	21
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	21	33	87	86	86	69	66	83	81
Political science	122	135	140	118	139	117	135	56	102
Sociology	110	109	110	109	102	103	93	95	117
Sociology/anthropology	64	72	60	37	33	34	32	39	41
Social sciences, n.e.c.	72	82	79	70	52	44	75	75	99
Total health fields	134	145	148	145	129	130	105	125	135
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	63	67	58	46	37	50	45	40	42
Pharmaceutical sciences	4	4	4	5	5	5	8	17	18
Preventive medicine/community health	5	4	0	0	0	0	0	0	0
Speech pathology/audiology	53	56	78	82	81	67	43	42	40
Veterinary sciences	9	14	6	5	3	3	4	4	5
Clinical medicine, n.e.c.	0	0	2	0	0	0	0	22	30
Health related, n.e.c.	0	0	0	7	3	5	5	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-60. Full-time science and engineering graduate students in historically black colleges and universities by field: 1982-90

Field	1982	1983	1994	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	2,230	2,231	2,357	2,335	2,151	2,091	2,285	2,082	2,139
Total, science/engineering fields	2,121	2,107	2,240	2,200	2,029	1,974	2,173	1,932	1,989
Engineering, total	192	195	258	273	197	248	296	290	236
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0
Civil	31	34	38	42	32	35	40	57	28
Electrical	57	84	102	111	43	104	104	104	81
Engineering science	0	0	0	0	0	0	0	0	0
Industrial	8	10	22	18	0	10	20	19	20
Mechanical	26	34	63	71	60	60	92	64	72
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	70	33	33	31	60	39	40	46	35
Sciences, total	1,929	1,912	1,982	1,927	1,832	1,726	1,877	1,642	1,753
Physical sciences	256	271	258	262	239	244	272	217	217
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	205	222	205	194	169	165	180	141	122
Physics	50	49	52	65	64	77	88	74	91
Physical sciences, n.e.c.	1	0	1	3	6	2	4	2	4
Earth, atmospheric, and ocean sciences	29	27	25	25	7	9	18	17	24
Atmospheric sciences	0	0	0	0	0	0	0	0	0
Geosciences	11	11	9	8	7	9	6	2	2
Oceanography	0	0	0	0	0	0	12	15	20
Earth, atmos., and ocean sci., n.e.c.	18	16	16	17	0	0	0	0	2
Mathematical sciences	111	137	139	141	143	168	169	160	95
Computer sciences	153	185	202	212	206	163	209	169	216
Agricultural sciences	46	39	79	27	26	36	41	45	106
Biological sciences	487	511	422	369	348	325	299	339	354
Anatomy	10	8	6	11	9	9	11	9	18
Biochemistry	22	18	19	11	14	12	15	15	15
Biology	242	260	218	172	149	139	102	129	130
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	33	32	5	11	31	26	31	31	39
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	25	25	27	27	29	25	22	22	18
Microbiology	24	26	24	20	14	10	7	8	15
Nutrition	28	20	36	34	32	34	30	34	33
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	32	34	24	15	16	12	9	8	8
Physiology	14	19	22	26	19	22	21	23	32
Zoology	39	38	18	23	17	18	18	22	20
Biosciences, n.e.c.	18	31	23	19	18	21	33	38	36
Psychology	120	132	173	159	183	163	202	197	175
Social sciences	727	610	684	732	680	618	667	498	566
Agricultural economics	19	50	49	41	46	31	29	27	25
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	234	60	59	103	91	86	88	63	44
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	19	38	61	72	72	82	80	60	63
Political science	162	143	245	216	249	197	229	81	141
Sociology	128	136	97	141	91	102	102	107	124
Sociology/anthropology	74	81	61	49	27	28	27	37	39
Social sciences, n.e.c.	91	102	112	110	104	92	112	123	130
Total, health fields	109	124	117	135	122	117	112	150	150
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	40	47	29	34	28	31	26	24	24
Pharmaceutical sciences	12	13	13	16	15	14	22	31	30
Preventive medicine/community health	6	10	0	0	0	0	0	0	0
Speech pathology/audiology	29	28	49	51	24	46	38	19	24
Veterinary sciences	23	26	23	24	20	17	17	19	11
Clinical medicine, n.e.c.	0	0	0	0	0	0	0	57	61
Health related, n.e.c.	0	0	0	10	5	9	9	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-61. Male full-time science and engineering graduate students in historically black colleges and universities by field: 1982-90

Field	1982	1983	1994	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	1,352	1,338	1,464	1,485	1,326	1,336	1,449	1,261	1,234
Total, science/engineering fields	1,327	1,308	1,434	1,450	1,294	1,308	1,405	1,190	1,173
Engineering, total	175	172	231	243	152	207	248	248	186
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0
Civil	24	26	32	34	17	19	20	46	22
Electrical	54	77	94	100	35	91	92	91	62
Engineering science	0	0	0	0	0	0	0	0	0
Industrial	8	9	18	12	0	0	0	0	0
Mechanical	25	32	58	66	57	54	84	59	64
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	64	28	29	31	43	35	37	40	31
Sciences, total	1,152	1,136	1,203	1,207	1,142	1,101	1,157	942	987
Physical sciences	161	170	172	178	177	180	199	164	158
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	123	131	126	119	117	107	121	96	79
Physics	38	39	45	58	57	71	77	67	77
Physical sciences, n.e.c.	0	0	1	1	3	2	1	1	2
Earth, atmospheric, and ocean sciences	18	15	15	22	4	7	7	10	12
Atmospheric sciences	0	0	0	0	0	0	0	0	0
Geosciences	6	5	4	7	4	7	5	2	1
Oceanography	0	0	0	0	0	0	0	0	0
Earth, atmos., and ocean sci., n.e.c.	12	10	11	15	0	0	0	0	10
Mathematical sciences	66	88	90	102	100	130	124	111	60
Computer sciences	102	128	140	153	149	126	133	99	133
Agricultural sciences	38	35	75	21	23	32	38	42	85
Biological sciences	260	283	216	170	185	162	159	162	179
Anatomy	5	5	4	4	3	2	5	3	2
Biochemistry	11	11	12	6	9	14	13	13	12
Biology	130	146	107	70	64	55	48	56	59
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	5	4	3	5	23	17	18	16	26
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	6	10	11	11	12	9	10	8	8
Microbiology	11	8	8	9	6	4	3	4	8
Nutrition	24	16	29	25	24	23	16	24	26
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	20	19	12	4	8	4	3	2	4
Physiology	10	14	13	16	14	17	14	15	19
Zoology	29	28	10	13	12	13	13	10	4
Biosciences, n.e.c.	9	22	7	7	10	8	15	11	11
Psychology	45	60	70	64	60	65	80	65	56
Social sciences	462	357	425	497	444	399	417	289	304
Agricultural economics	15	42	42	36	44	30	28	26	20
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	162	43	43	84	71	68	71	49	31
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	3	10	21	22	24	37	36	26	27
Political science	116	86	170	152	177	133	151	50	94
Sociology	82	84	37	95	47	61	57	50	53
Sociology/anthropology	27	26	35	28	10	11	11	7	7
Social sciences, n.e.c.	57	66	77	80	71	59	63	81	72
Total, health fields	25	30	30	35	32	28	44	71	61
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	0	1	0	0	0	0	0	0	1
Pharmaceutical sciences	8	9	9	11	10	9	14	20	19
Preventive medicine/community health	2	7	0	0	0	0	0	0	0
Speech pathology/audiology	2	1	3	2	2	0	13	0	0
Veterinary sciences	13	12	17	19	18	15	13	15	10
Clinical medicine, n.e.c.	0	0	1	0	0	0	0	35	31
Health related, n.e.c.	0	0	0	3	2	4	4	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-62. Female full-time science and engineering graduate students in historically black colleges and universities by field: 1982-90

Field	1982	1983	1994	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	878	893	893	850	825	755	836	821	905
Total, science/engineering fields	794	799	806	750	735	666	768	742	816
Engineering, total	17	23	27	30	45	41	48	42	50
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0
Civil	7	8	6	8	15	16	20	11	6
Electrical	3	7	8	11	10	13	12	13	19
Engineering science	0	0	0	0	0	0	0	0	0
Industrial	0	1	4	6	0	2	5	7	13
Mechanical	1	2	5	5	3	1	8	5	8
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	6	5	4	0	17	4	3	6	4
Sciences, total	777	776	779	720	690	625	720	700	766
Physical sciences	95	101	86	84	62	64	73	53	59
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	82	91	79	75	52	58	59	45	43
Physics	12	10	7	7	7	6	11	7	14
Physical sciences, n.e.c.	1	0	0	2	3	0	3	1	2
Earth, atmospheric, and ocean sciences	11	12	10	3	3	2	11	7	12
Atmospheric sciences	5	6	5	1	0	2	0	0	1
Geosciences	0	0	0	0	0	0	0	0	0
Oceanography	0	0	0	0	0	0	10	7	10
Earth, atmos., and ocean sci., n.e.c.	6	6	5	2	0	0	0	0	1
Mathematical sciences	45	49	49	39	43	38	45	49	35
Computer sciences	51	57	62	59	57	37	76	70	83
Agricultural sciences	8	4	4	6	3	4	3	3	21
Biological sciences	227	228	206	199	163	163	140	177	175
Anatomy	5	3	2	7	6	4	6	6	6
Biochemistry	11	7	7	5	5	2	1	2	3
Biology	112	114	111	102	85	84	54	73	71
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	28	28	2	6	8	9	13	15	13
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	19	15	16	16	17	16	12	14	10
Microbiology	13	18	16	11	8	6	4	4	7
Nutrition	4	4	0	9	0	11	14	10	7
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	12	15	12	11	8	8	6	6	4
Physiology	4	5	8	10	5	5	7	8	13
Zoology	10	10	9	10	5	5	5	12	16
Biosciences, n.e.c.	9	9	16	12	8	13	18	27	25
Psychology	75	72	103	95	123	98	122	132	119
Social sciences	265	253	259	235	236	219	250	209	262
Agricultural economics	4	8	7	5	2	1	1	1	5
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	72	17	16	19	20	18	17	14	13
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	16	28	40	48	48	45	44	34	36
Political science	46	57	75	64	72	64	78	31	47
Sociology	46	52	60	48	44	41	45	57	71
Sociology/anthropology	47	55	26	21	17	17	16	30	32
Social sciences, n.e.c.	34	36	35	30	33	33	49	42	58
Total, health fields	84	94	87	100	90	89	68	79	89
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	40	46	29	34	28	31	26	23	23
Pharmaceutical sciences	4	4	4	5	5	5	8	11	11
Preventive medicine/community health ...	4	3	0	0	0	0	0	0	0
Speech pathology/audiology	27	27	46	49	52	46	25	19	24
Veterinary sciences	9	14	6	5	2	2	4	4	1
Clinical medicine, n.e.c.	0	0	2	0	0	0	0	22	30
Health related, n.e.c.	0	0	0	7	3	5	5	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-63. Full-time science and engineering graduate students in historically black colleges and universities by type and source of major support: 1982-90

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Type and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all types									
Total, all sources	2,230	2,231	2,357	2,335	2,151	2,091	2,285	2,082	2,139
Federal, total	543	538	585	692	546	523	601	607	648
Dept of Defense	20	33	50	38	54	52	57	73	71
Dept of HHS, total	206	215	209	199	194	179	189	234	206
NIH	168	187	181	165	154	152	160	204	180
Other HHS	38	28	28	34	40	27	29	30	26
NSF	70	50	39	25	33	43	51	47	39
USDA	NA	NA	NA	56	38	68	50	47	56
All other Federal	247	240	287	374	227	181	254	206	276
Institutional support	622	642	592	411	464	495	534	549	652
Other outside support, total	129	136	114	105	172	200	195	220	130
All other U.S.	94	96	94	80	150	155	154	179	115
Foreign	35	40	20	25	22	45	41	41	15
Self-support	936	915	1,066	1,127	969	873	955	706	709
Fellowships									
Total, all sources	244	236	252	264	165	231	273	234	277
Federal, total	78	64	99	145	94	102	103	91	124
Dept of Defense	0	0	3	0	0	13	3	4	3
Dept of HHS, total	17	10	18	30	16	6	14	11	24
NIH	12	5	13	21	7	6	6	1	20
Other HHS	5	5	5	9	9	0	8	10	4
NSF	12	10	7	10	5	15	9	7	8
USDA	NA	NA	NA	2	0	4	2	0	0
All other Federal	49	44	71	103	73	64	75	69	89
Institutional support	108	97	100	70	53	93	123	90	116
Other outside support, total	58	75	53	49	18	36	47	53	37
All other U.S.	47	33	39	31	10	26	38	43	34
Foreign	11	22	14	18	8	10	9	10	3
Self-support	0	0	0	0	0	0	0	0	0
Traineeships									
Total, all sources	194	210	192	158	162	148	113	129	157
Federal, total	167	175	169	139	114	104	72	112	133
Dept of Defense	1	5	0	0	0	1	0	0	15
Dept of HHS, total	96	110	111	97	99	93	60	107	99
NIH	74	93	90	72	73	67	39	87	81
Other HHS	22	17	21	25	26	26	21	20	18
NSF	37	19	8	1	2	1	0	0	0
USDA	NA	NA	NA	0	0	4	0	0	0
All other Federal	33	41	49	41	13	5	12	5	19
Institutional support	20	25	18	18	38	33	36	17	1
Other outside support, total	7	10	5	1	10	11	5	0	23
All other U.S.	3	0	1	1	3	2	0	0	23
Foreign	4	10	4	0	7	9	5	0	0
Self-support	0	0	0	0	0	0	0	0	0
Research assistantships									
Total, all sources	319	362	423	329	346	332	427	448	461
Federal, total	224	243	274	274	255	256	329	334	305
Dept of Defense	14	27	45	38	40	27	41	56	52
Dept of HHS, total	82	85	76	65	70	61	99	104	77
NIH	77	80	76	65	65	61	99	104	73
Other HHS	5	5	0	0	5	0	0	0	4
NSF	18	18	18	14	23	23	37	35	30
USDA	NA	NA	NA	48	31	53	45	46	54
All other Federal	110	113	135	109	91	92	107	93	92
Institutional support	79	103	118	38	70	55	76	94	136
Other outside support, total	16	16	31	17	21	21	22	20	20
All other U.S.	14	15	30	11	15	18	20	15	15
Foreign	2	1	1	6	6	3	2	5	5
Self-support	0	0	0	0	0	0	0	0	0
Teaching assistantships									
Total, all sources	385	357	323	307	308	304	341	309	328
Federal, total	16	3	7	52	35	11	68	26	46
Dept of Defense	0	0	0	0	0	0	0	0	0
Dept of HHS, total	8	3	2	2	2	4	9	3	1
NIH	2	3	0	2	2	4	9	3	1
Other HHS	6	0	2	0	0	0	0	0	0
NSF	0	0	4	0	3	1	5	4	0
USDA	NA	NA	NA	0	0	0	0	0	0
All other Federal	8	0	1	50	30	6	52	19	45
Institutional support	357	350	296	236	252	257	241	237	268
Other outside support, total	12	4	20	19	21	36	32	46	14
All other U.S.	12	4	20	19	21	36	32	46	14
Foreign	0	0	0	0	0	0	0	0	0
Self-support	0	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-63. Full-time science and engineering graduate students in historically black colleges and universities
by type and source of major support: 1982-90

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Type and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Other types of support									
Total, all sources	1,088	1,066	1,167	1,277	1,170	1,076	1,131	962	916
Federal, total	58	53	36	82	48	50	29	44	40
Dept of Defense	3	1	1	0	14	11	13	13	1
Dept of HHS, total	3	7	2	5	7	15	7	9	5
NIH	0	6	2	5	7	14	7	9	5
Other HHS	3	1	0	0	0	1	0	0	0
NSF	3	3	2	0	0	3	0	1	1
USDA	NA	NA	NA	6	7	7	1	1	2
All other Federal	47	42	31	71	20	14	8	20	31
Institutional support	58	67	60	49	51	57	58	111	131
Other outside support, total	36	31	5	19	102	96	89	101	36
All other U.S.	18	24	4	18	101	73	64	75	29
Foreign	18	7	1	1	1	23	25	26	7
Self-support	936	915	1,066	1,127	969	873	955	706	709

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-64. Part-time science and engineering graduate students in historically black colleges and universities by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	1,039	1,215	1,518	1,252	1,303	1,111	1,189	1,291	1,489
Total, science/engineering fields	982	1,162	1,453	1,204	1,261	1,068	1,146	1,240	1,430
Engineering, total	75	116	147	69	177	87	84	93	158
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0
Civil	13	13	27	4	15	17	17	15	32
Electrical	7	10	29	10	16	25	7	25	51
Engineering science	0	0	0	0	0	0	0	0	0
Industrial	0	13	15	2	0	0	6	7	8
Mechanical	4	13	30	10	3	5	10	8	28
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	51	67	46	43	143	40	44	38	39
Sciences, total	907	1,046	1,306	1,135	1,084	981	1,062	1,147	1,272
Physical sciences	32	48	89	58	60	56	56	119	123
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	21	28	64	34	27	32	24	92	81
Physics	8	13	13	7	20	23	24	20	39
Physical sciences, n.e.c.	3	12	12	17	13	1	8	7	3
Earth, atmospheric, and ocean sciences	2	5	14	9	12	7	18	10	24
Atmospheric sciences	0	0	0	0	0	0	0	0	0
Geosciences	2	5	14	9	12	7	7	0	4
Oceanography	0	0	0	0	0	0	11	10	17
Earth, atmos., and ocean sci., n.e.c.	0	0	0	0	0	0	0	0	3
Mathematical sciences	95	98	127	99	122	91	83	95	84
Computer sciences	79	86	118	92	73	66	68	121	188
Agricultural sciences	41	43	30	39	29	16	23	21	25
Biological sciences	118	82	114	110	99	84	115	108	106
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	0	0	0	0	0	0	0	0	0
Biology	92	63	83	95	80	68	78	77	54
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	12	12	12	5	6	6	7	12	29
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	0	2	2	3	3	0	4	4	4
Microbiology	0	0	0	1	0	0	0	0	0
Nutrition	8	0	0	0	2	1	13	10	9
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	3	2	1	0	1	0	1	0	0
Physiology	0	0	0	1	1	0	1	1	0
Zoology	2	2	11	2	5	5	5	0	8
Biosciences, n.e.c.	1	1	5	3	1	4	6	4	2
Psychology	107	252	263	245	236	211	241	243	273
Social sciences	433	432	551	483	453	450	458	430	449
Agricultural economics	20	3	13	22	13	15	19	22	14
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	50	46	76	58	56	37	44	36	42
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	5	5	76	57	57	62	56	77	71
Political science	124	154	147	129	140	170	170	131	121
Sociology	89	78	76	85	88	93	83	73	87
Sociology/anthropology	31	32	52	31	33	34	31	21	22
Social sciences, n.e.c.	114	114	111	101	66	39	55	70	92
Total, health fields	57	53	65	48	42	43	43	51	59
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	23	21	30	12	10	19	19	17	19
Pharmaceutical sciences	0	0	0	0	0	0	0	11	11
Preventive medicine/community health	2	1	0	0	0	0	0	0	0
Speech pathology/audiology	29	31	32	33	29	21	24	23	21
Veterinary sciences	3	0	3	3	3	3	0	0	8
Clinical medicine, n.e.c.	0	0	0	0	0	0	0	0	0
Health related, n.e.c.	0	0	0	0	0	0	0	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-65. Male part-time science and engineering graduate students in historically black colleges and universities by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	547	643	858	660	726	622	643	689	790
Total, science/engineering fields	540	641	854	657	723	620	637	684	777
Engineering, total	67	102	133	63	163	75	71	76	121
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	8	7	22	3	10	11	10	9	26
Civil	7	10	27	10	15	21	7	22	31
Electrical	0	0	0	0	0	0	0	0	0
Engineering science	0	9	14	1	0	0	6	5	6
Industrial	4	13	28	8	3	5	9	7	25
Mechanical	0	0	0	0	0	0	0	0	0
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	48	63	42	41	135	38	39	33	33
Sciences, total	473	539	721	594	560	545	566	608	656
Physical sciences	21	27	63	29	37	36	36	67	71
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	12	14	45	16	19	21	14	53	43
Physics	8	8	13	6	14	15	17	13	28
Physical sciences, n.e.c.	1	5	5	7	4	0	5	1	0
Earth, atmospheric, and ocean sciences	1	1	5	5	6	4	12	5	14
Atmospheric sciences	1	1	5	5	6	4	4	0	3
Geosciences	0	0	0	0	0	0	8	5	10
Oceanography	0	0	0	0	0	0	0	0	1
Earth, atmos., and ocean sci., n.e.c.	0	0	0	0	0	0	0	0	0
Mathematical sciences	45	51	72	38	60	48	44	52	49
Computer sciences	48	57	81	67	47	45	48	84	117
Agricultural sciences	36	33	27	30	23	12	18	15	19
Biological sciences	56	38	58	52	40	47	54	45	41
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	0	0	0	0	0	0	0	0	0
Biology	47	27	44	44	28	37	41	37	22
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	5	5	8	2	3	3	2	6	13
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	0	2	0	2	2	0	1	0	1
Microbiology	0	0	0	0	0	0	0	0	0
Nutrition	1	0	0	0	1	1	1	0	0
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	1	2	1	0	0	0	1	0	0
Physiology	0	0	0	1	1	0	0	0	0
Zoology	2	2	4	1	4	4	4	0	4
Biosciences, n.e.c.	0	0	1	3	1	2	4	2	1
Psychology	52	117	124	113	107	84	79	81	103
Social sciences	214	215	291	260	240	269	275	259	242
Agricultural economics	18	2	11	19	11	11	14	16	11
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	33	33	58	47	43	27	35	25	34
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	0	0	29	19	19	38	34	28	26
Political science	48	76	82	75	73	117	113	106	66
Sociology	25	21	26	24	30	31	35	35	41
Sociology/anthropology	14	15	18	15	17	17	15	12	13
Social sciences, n.e.c.	76	68	67	61	47	28	29	37	51
Total, health fields	7	2	4	3	3	2	6	5	13
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	0	0	1	0	1	0	0	0	0
Pharmaceutical sciences	0	0	0	0	0	0	0	5	4
Preventive medicine/community health ...	1	0	0	0	0	0	0	0	0
Speech pathology/audiology	3	2	0	0	0	0	6	0	5
Veterinary sciences	3	0	3	3	2	2	0	0	4
Clinical medicine, n.e.c.	0	0	0	0	0	0	0	0	0
Health related, n.e.c.	0	0	0	0	0	0	0	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-66. Female part-time science and engineering graduate students in historically black colleges and universities by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	492	572	660	592	577	489	546	602	699
Total, science/engineering fields	442	521	599	547	538	448	509	556	653
Engineering, total	8	14	14	6	14	12	13	17	37
Aerospace	0	0	0	0	0	0	0	0	0
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	0	0	0	0	0	0	0	0	0
Chemical	0	0	0	0	0	0	0	0	0
Civil	5	6	5	1	5	6	7	6	6
Electrical	0	0	2	0	1	4	0	3	20
Engineering science	0	0	0	0	0	0	0	0	0
Industrial	0	4	1	1	0	0	0	2	2
Mechanical	0	0	2	2	0	0	0	1	3
Metallurgical/materials	0	0	0	0	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	3	4	4	2	8	2	5	5	6
Sciences, total	434	507	585	541	524	436	496	539	616
Physical sciences	11	21	26	29	23	20	20	52	52
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	9	14	19	18	8	11	10	39	38
Physics	0	0	0	1	6	8	7	7	11
Physical sciences, n.e.c.	2	7	7	10	9	1	3	6	3
Earth, atmospheric, and ocean sciences	1	4	9	4	6	3	6	5	10
Atmospheric sciences	0	0	0	0	0	0	0	0	0
Geosciences	1	4	9	4	6	3	3	0	1
Oceanography	0	0	0	0	0	0	3	5	7
Earth, atmos., and ocean sci., n.e.c.	0	0	0	0	0	0	0	0	2
Mathematical sciences	50	47	55	61	62	43	39	43	35
Computer sciences	31	29	37	25	26	21	20	37	71
Agricultural sciences	5	10	3	9	6	4	5	6	6
Biological sciences	62	44	56	58	59	37	61	63	65
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	0	0	0	0	0	0	0	0	0
Biology	45	30	39	51	52	31	37	40	32
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	7	4	3	3	3	3	5	6	16
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	0	0	0	0	0	0	0	0	0
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	0	2	1	1	0	3	4	3	3
Microbiology	0	0	0	1	0	0	0	0	0
Nutrition	7	0	0	1	0	0	12	10	9
Pathology	0	0	0	0	0	0	0	0	0
Pharmacology	2	0	0	0	1	0	0	0	0
Physiology	0	0	0	1	0	0	1	1	0
Zoology	0	7	7	1	1	1	1	0	4
Biosciences, n.e.c.	1	1	4	0	0	2	2	2	1
Psychology	55	135	139	132	129	127	162	162	170
Social sciences	219	217	260	223	213	181	183	171	207
Agricultural economics	2	1	2	3	2	4	5	6	3
Anthropology	0	0	0	0	0	0	0	0	0
Economics (except agricultural)	17	13	18	11	13	10	9	11	8
Geography	0	0	0	0	0	0	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	5	5	47	38	38	24	22	49	45
Political science	76	78	65	54	67	53	57	25	55
Sociology	64	57	50	61	58	62	48	38	46
Sociology/anthropology	17	17	34	16	16	17	16	9	9
Social sciences, n.e.c.	38	46	44	40	19	11	26	33	41
Total, health fields	50	51	61	45	39	41	37	46	46
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	23	21	29	12	9	19	19	17	19
Pharmaceutical sciences	0	0	0	0	0	0	0	6	7
Preventive medicine/community health ...	1	1	0	0	0	0	0	0	0
Speech pathology/audiology	26	29	32	33	29	21	18	23	16
Veterinary sciences	0	0	0	0	1	1	0	0	4
Clinical medicine, n.e.c.	0	0	0	0	0	0	0	0	0
Health related, n.e.c.	0	0	0	0	0	0	0	0	0

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-67. Science and engineering graduate students in land-grant institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	122,052	124,522	125,464	127,576	131,779	132,021	134,119	137,476	141,953
Total, science/engineering fields	111,716	114,901	115,698	117,470	121,676	121,856	123,249	125,979	129,679
Engineering, total	29,015	31,111	30,931	31,874	34,482	35,081	35,263	36,024	37,600
Aerospace	729	959	943	1,022	1,093	1,103	1,173	1,253	1,397
Agricultural	805	900	883	850	929	937	929	922	844
Biomedical	310	325	328	347	415	482	487	542	558
Chemical	2,846	2,962	2,851	2,814	2,841	2,889	2,742	2,787	2,884
Civil	5,371	5,785	5,830	5,812	5,934	5,785	6,045	6,090	6,438
Electrical	6,689	7,505	7,770	8,377	9,134	9,657	9,717	9,972	10,059
Engineering science	567	628	632	685	878	855	827	895	1,307
Industrial	2,725	2,309	2,410	2,773	3,048	2,997	2,836	3,068	3,005
Mechanical	4,595	4,182	4,365	4,267	4,804	6,040	6,138	5,971	6,299
Metallurgical/materials	1,313	1,403	1,544	1,660	1,785	1,788	1,813	1,960	2,078
Mining	231	294	270	260	296	287	269	211	229
Nuclear	796	803	806	828	890	880	878	906	883
Petroleum	121	197	225	201	213	239	202	212	201
Engineering, n.e.c.	1,917	1,859	1,074	978	1,222	1,142	1,207	1,235	1,418
Sciences, total	82,701	83,790	84,767	85,596	87,194	86,775	87,986	89,955	92,079
Physical sciences	11,153	11,516	11,783	12,102	12,589	12,775	12,959	13,094	13,228
Astronomy	242	244	257	277	287	286	287	306	332
Chemistry	6,580	6,856	6,917	7,115	7,249	7,299	7,269	7,345	7,314
Physics	4,273	4,360	4,542	4,661	5,001	5,149	5,371	5,410	5,551
Physical sciences, n.e.c.	58	56	67	49	52	41	32	33	31
Earth, atmospheric, and ocean sciences	6,104	6,338	6,329	6,295	6,247	5,885	5,727	5,786	5,629
Atmospheric sciences	562	533	548	564	555	540	554	574	593
Geosciences	3,658	3,940	3,964	3,882	3,742	3,380	3,197	3,092	2,885
Oceanography	1,055	1,056	1,074	1,060	1,107	1,105	1,078	1,225	1,228
Earth, atmos., and ocean sci., n.e.c.	829	809	743	789	843	860	898	895	923
Mathematical sciences	4,922	5,191	5,461	5,619	5,956	6,296	6,651	6,783	7,087
Computer sciences	4,346	4,858	5,393	6,059	6,258	6,378	6,469	6,567	6,765
Agricultural sciences	9,852	9,820	9,569	9,133	9,150	8,921	8,794	8,718	8,777
Biological sciences	18,952	19,055	19,115	19,223	19,454	19,388	19,565	19,961	20,209
Anatomy	333	342	342	311	298	310	342	334	304
Biochemistry	1,791	1,873	1,986	2,130	2,237	2,108	2,164	2,211	2,248
Biology	2,284	2,318	2,342	2,344	2,350	2,478	2,511	2,681	2,700
Biometry/epidemiology	119	124	108	123	199	259	265	270	289
Biophysics	120	115	110	155	164	173	167	209	195
Botany	2,821	2,678	2,657	2,638	2,605	2,459	2,461	2,442	2,266
Cell biology	371	394	453	498	615	749	818	887	1,033
Ecology	658	650	685	659	629	590	619	636	636
Entomology/parasitology	1,309	1,264	1,226	1,170	1,148	1,065	1,057	1,029	1,063
Genetics	517	538	539	555	620	647	603	605	654
Microbiology	1,877	1,995	1,996	2,104	1,998	2,029	2,140	2,111	2,162
Nutrition	2,793	2,703	2,724	2,720	2,746	2,682	2,603	2,601	2,660
Pathology	556	581	527	522	513	527	484	515	495
Pharmacology	757	834	834	815	831	821	844	939	975
Physiology	800	763	810	845	807	833	829	843	842
Zoology	1,381	1,597	1,524	1,381	1,372	1,374	1,317	1,291	1,315
Biosciences, n.e.c.	265	286	252	253	322	284	341	357	372
Psychology	6,753	6,977	7,130	7,378	7,395	7,074	7,540	7,818	7,984
Social sciences	20,619	20,035	19,987	19,787	20,145	20,058	20,281	21,228	22,400
Agricultural economics	2,043	2,109	2,095	2,065	2,051	2,017	2,063	2,087	2,071
Anthropology	1,652	1,511	1,533	1,556	1,484	1,561	1,588	1,654	1,802
Economics (except agricultural)	4,489	4,165	3,979	3,965	3,980	3,851	3,675	3,874	3,937
Geography	1,135	1,066	1,056	1,017	1,097	1,171	1,137	1,296	1,330
History and philosophy of science	69	68	65	59	72	74	91	115	136
Linguistics	640	676	714	658	763	835	812	874	927
Political science	5,327	5,412	5,523	5,555	5,644	5,545	5,793	5,976	6,541
Sociology	2,350	2,224	2,151	2,179	2,219	2,294	2,354	2,478	2,575
Sociology/anthropology	310	290	276	274	303	301	344	373	428
Social sciences, n.e.c.	2,604	2,514	2,595	2,559	2,532	2,409	2,424	2,501	2,653
Total, health fields	10,336	9,621	9,766	10,106	10,103	10,165	10,870	11,497	12,274
Dentistry	179	157	184	184	194	197	223	195	199
Neurology	90	89	110	116	122	139	180	184	228
Nursing	3,285	3,463	3,480	3,449	3,582	3,503	3,814	4,197	4,392
Pharmaceutical sciences	858	810	777	804	842	777	825	919	943
Preventive medicine/community health	2,054	2,093	2,079	2,155	1,912	2,091	2,181	2,250	2,455
Speech pathology/audiology	2,545	1,671	1,712	1,795	1,777	1,499	1,630	1,622	1,699
Veterinary sciences	413	414	494	569	567	670	694	733	813
Clinical medicine, n.e.c.	473	407	384	390	393	365	394	441	461
Health related, n.e.c.	439	517	546	644	714	924	929	956	1,084

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-68. Male science and engineering graduate students in land-grant institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	84,238	86,295	86,549	87,805	90,571	90,674	91,019	91,888	93,979
Total, science/engineering fields	81,292	83,647	83,935	84,923	87,887	87,793	88,035	88,942	90,857
Engineering, total	25,892	27,825	27,529	28,260	30,441	30,807	30,919	31,397	32,443
Aerospace	695	918	897	966	1,022	1,036	1,102	1,177	1,308
Agricultural	248	829	806	775	850	850	852	844	750
Biomedical	240	256	258	272	331	374	370	400	405
Chemical	2,488	2,600	2,495	2,465	2,476	2,462	2,328	2,360	2,380
Civil	4,618	4,949	4,990	4,919	5,024	4,894	5,066	5,093	5,308
Electrical	6,214	6,910	7,089	7,674	8,289	8,775	8,799	8,972	8,927
Engineering science	514	568	548	593	774	746	729	794	1,139
Industrial	2,163	1,894	1,964	2,291	2,516	2,451	2,364	2,506	2,442
Mechanical	4,273	4,844	5,012	4,898	5,363	5,551	5,608	5,457	5,764
Metallurgical/materials	1,138	1,208	1,341	1,393	1,477	1,450	1,480	1,607	1,700
Mining	211	268	247	245	277	265	247	192	202
Nuclear	746	747	741	754	802	794	789	795	770
Petroleum	116	165	207	190	207	224	192	206	192
Engineering, n.e.c.	1,728	1,669	934	825	1,033	935	993	994	1,156
Sciences, total	55,400	55,822	56,406	56,663	57,446	56,986	57,116	57,545	58,414
Physical sciences	9,128	9,325	9,524	9,726	10,043	10,129	10,149	10,171	10,241
Astronomy	199	198	209	225	230	238	233	248	252
Chemistry	5,038	5,180	5,214	5,375	5,361	5,356	5,191	5,198	5,143
Physics	3,851	3,912	4,064	4,099	4,420	4,515	4,711	4,709	4,831
Physical sciences, n.e.c.	40	35	37	27	32	20	14	16	15
Earth, atmospheric, and ocean sciences	4,653	4,812	4,829	4,711	4,665	4,377	4,227	4,192	4,036
Atmospheric sciences	478	456	470	479	449	444	445	475	483
Geosciences	2,847	3,026	3,065	2,939	2,876	2,568	2,418	2,338	2,165
Oceanography	759	768	774	732	757	771	743	813	819
Earth, atmos., and ocean sci., n.e.c.	569	562	520	561	583	594	601	569	569
Mathematical sciences	3,639	3,823	3,978	4,054	4,281	4,546	4,806	4,800	5,065
Computer sciences	3,267	3,679	4,088	4,656	4,889	5,102	5,144	5,307	5,462
Agricultural sciences	7,401	7,358	7,113	6,771	6,788	6,546	6,387	6,269	6,207
Biological sciences	11,484	11,421	11,362	11,448	11,398	11,246	11,266	11,327	11,399
Anatomy	192	190	191	173	161	168	185	185	161
Biochemistry	1,149	1,190	1,268	1,358	1,393	1,292	1,300	1,335	1,345
Biology	1,386	1,368	1,402	1,370	1,398	1,493	1,480	1,543	1,589
Biometry/epidemiology	67	59	55	67	104	111	121	103	118
Biophysics	92	84	86	122	135	147	136	167	142
Botany	1,833	1,715	1,667	1,632	1,661	1,498	1,520	1,518	1,384
Cell biology	257	277	307	340	384	464	494	518	579
Ecology	439	435	458	432	398	370	388	392	397
Entomology/parasitology	997	939	914	867	829	784	757	716	737
Genetics	267	299	303	337	349	351	338	331	359
Microbiology	1,105	1,154	1,144	1,245	1,149	1,158	1,221	1,155	1,175
Nutrition	1,174	1,110	1,097	1,123	1,116	1,100	1,029	1,022	1,069
Pathology	362	375	343	326	320	318	302	312	299
Pharmacology	485	330	310	499	497	480	518	532	561
Physiology	507	471	512	515	464	486	489	490	483
Zoology	1,016	1,061	973	899	863	869	810	812	802
Biosciences, n.e.c.	156	160	132	143	177	157	178	196	199
Psychology	3,035	3,025	3,033	3,098	3,082	2,764	2,879	2,949	2,907
Social sciences	12,793	12,379	12,479	12,199	12,300	12,276	12,258	12,530	13,097
Agricultural economics	1,617	1,663	1,645	1,595	1,583	1,542	1,570	1,561	1,521
Anthropology	813	705	698	653	649	688	692	699	760
Economics (except agricultural)	3,253	3,055	2,959	2,903	2,887	2,832	2,686	2,783	2,797
Geography	795	703	708	674	722	756	761	860	869
History and philosophy of science	44	46	41	41	50	51	63	76	90
Linguistics	279	282	282	275	331	368	358	395	434
Political science	3,321	3,263	3,437	3,390	3,431	3,411	3,455	3,472	3,815
Sociology	1,120	1,074	1,064	1,059	1,053	1,100	1,130	1,134	1,124
Sociology/anthropology	150	156	138	132	142	149	159	174	190
Social sciences, n.e.c.	1,401	1,432	1,507	1,477	1,452	1,379	1,384	1,376	1,497
Total, health fields	2,946	2,648	2,614	2,882	2,684	2,881	2,984	2,946	3,122
Dentistry	154	132	147	145	161	145	161	136	134
Neurology	62	68	65	67	72	86	106	110	133
Nursing	112	126	128	138	141	174	169	176	185
Pharmaceutical sciences	594	563	520	540	541	493	500	556	587
Preventive medicine/community health	771	767	745	761	698	847	881	795	866
Speech pathology/audiology	471	288	266	357	265	200	237	186	196
Veterinary sciences	264	266	309	355	349	412	414	423	457
Clinical medicine, n.e.c.	331	250	236	239	232	231	238	262	267
Health related, n.e.c.	187	188	198	280	225	293	278	302	297

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-69. Female science and engineering graduate students in land-grant institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	37,814	38,227	38,915	39,771	41,208	41,347	43,100	45,588	47,974
Total, science/engineering fields	30,424	31,254	31,763	32,547	33,789	34,063	35,214	37,037	38,822
Engineering, total	3,123	3,286	3,402	3,614	4,041	4,274	4,344	4,627	5,157
Aerospace	52	61	46	56	71	67	71	76	89
Agricultural	57	71	77	75	79	87	77	78	94
Biomedical	70	69	70	75	84	108	117	142	153
Chemical	358	362	356	349	365	427	414	427	504
Civil	753	836	840	893	910	891	979	997	1,130
Electrical	475	595	681	703	845	882	918	1,000	1,132
Engineering science	53	60	84	92	104	109	98	101	168
Industrial	562	415	446	482	532	546	472	562	563
Mechanical	322	338	353	369	441	489	530	514	535
Metallurgical/materials	175	195	203	267	308	338	333	353	378
Mining	20	26	23	15	19	22	22	19	27
Nuclear	50	56	65	74	88	86	89	111	113
Petroleum	5	32	18	11	6	15	10	6	9
Engineering, n.e.c.	189	190	140	153	189	207	214	241	262
Sciences, total	27,301	27,968	28,361	28,933	29,748	29,789	30,870	32,410	33,665
Physical sciences	2,025	2,191	2,259	2,376	2,546	2,646	2,810	2,923	2,987
Astronomy	43	46	48	52	57	48	54	58	80
Chemistry	1,542	1,676	1,703	1,740	1,888	1,943	2,078	2,147	2,171
Physics	422	448	478	562	581	634	660	701	720
Physical sciences, n.e.c.	18	21	30	22	20	21	18	17	16
Earth, atmospheric, and ocean sciences	1,451	1,526	1,500	1,584	1,582	1,508	1,500	1,594	1,593
Atmospheric sciences	84	77	78	85	106	96	89	102	110
Geosciences	811	914	899	943	866	812	759	747	720
Oceanography	296	288	300	328	350	334	335	412	409
Earth, atmos., and ocean sci., n.e.c.	260	247	223	228	260	266	297	326	354
Mathematical sciences	1,283	1,368	1,483	1,565	1,675	1,750	1,845	1,983	2,022
Computer sciences	1,079	1,179	1,305	1,403	1,369	1,276	1,325	1,260	1,303
Agricultural sciences	2,451	2,462	2,456	2,362	2,362	2,375	2,407	2,449	2,570
Biological sciences	7,468	7,634	7,753	7,775	8,056	8,142	8,299	8,634	8,810
Anatomy	141	148	151	138	137	142	157	149	143
Biochemistry	642	683	718	772	844	816	779	876	903
Biology	898	950	940	974	952	985	1,031	1,138	1,111
Biometry/epidemiology	52	65	53	56	95	148	164	167	171
Biophysics	28	31	24	33	29	26	31	42	53
Botany	988	963	990	1,006	944	961	941	924	882
Cell biology	114	117	146	158	231	285	324	369	454
Ecology	219	215	227	227	231	220	231	244	239
Entomology/parasitology	312	325	312	303	319	281	300	313	326
Genetics	250	239	236	218	271	296	265	274	295
Microbiology	772	841	852	859	849	871	919	956	987
Nutrition	1,619	1,593	1,627	1,597	1,630	1,582	1,574	1,579	1,591
Pathology	194	206	184	196	193	209	182	203	196
Pharmacology	272	304	324	316	334	341	326	407	414
Physiology	293	292	298	330	343	347	340	353	359
Zoology	565	536	551	482	509	505	507	479	513
Biosciences, n.e.c.	109	126	120	110	145	127	163	161	175
Psychology	3,718	3,952	4,097	4,280	4,313	4,310	4,661	4,869	5,077
Social sciences	7,826	7,656	7,508	7,588	7,845	7,782	8,023	8,698	9,303
Agricultural economics	426	446	450	470	468	475	493	526	550
Anthropology	839	806	835	803	835	873	896	955	1,042
Economics (except agricultural)	1,236	1,110	1,020	1,062	1,093	1,019	989	1,091	1,140
Geography	340	363	348	343	375	415	376	436	461
History and philosophy of science	25	22	24	18	22	23	28	39	46
Linguistics	361	394	432	383	432	467	454	479	493
Political science	2,006	2,149	2,086	2,165	2,213	2,134	2,338	2,504	2,726
Sociology	1,230	1,150	1,087	1,120	1,166	1,194	1,224	1,344	1,451
Sociology/anthropology	160	134	138	142	161	152	185	199	238
Social sciences, n.e.c.	1,203	1,082	1,088	1,082	1,080	1,030	1,040	1,125	1,156
Total, health fields	7,390	6,973	7,152	7,224	7,419	7,284	7,886	8,551	9,152
Dentistry	25	25	37	39	33	52	62	59	65
Neurology	28	21	45	49	50	53	74	74	95
Nursing	3,173	3,337	3,352	3,311	3,441	3,329	3,645	4,021	4,207
Pharmaceutical sciences	264	247	257	264	301	284	325	363	356
Preventive medicine/community health	1,283	1,326	1,334	1,394	1,214	1,244	1,300	1,455	1,589
Speech pathology/audiology	2,074	1,383	1,446	1,438	1,512	1,299	1,436	1,436	1,503
Veterinary sciences	149	148	185	214	218	258	280	310	356
Clinical medicine, n.e.c.	142	157	148	151	161	134	156	179	194
Health related, n.e.c.	252	329	348	364	489	631	651	654	787

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-70. Full-time science and engineering graduate students in Land-grant institutions by field: 1982-90

Field	1982	1983	1994	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	96,745	98,863	100,470	101,033	105,236	105,670	107,098	109,082	111,659
Total, science/engineering fields	89,925	92,082	93,519	93,897	98,154	98,644	99,664	101,515	103,667
Engineering, total	22,447	23,717	24,251	24,473	26,580	26,947	27,444	27,926	28,587
Aerospace	657	774	726	783	848	886	969	1,047	1,103
Agricultural	688	715	713	685	770	819	786	757	716
Biomedical	552	250	278	305	368	441	400	419	445
Chemical	2,536	2,617	2,529	2,449	2,535	2,628	2,457	2,512	2,603
Civil	4,509	4,822	4,836	4,744	4,959	4,807	5,043	4,999	5,255
Electrical	4,941	5,530	5,876	6,100	6,687	6,876	7,133	7,394	7,580
Engineering science	370	387	352	360	462	415	391	411	435
Industrial	1,763	1,330	1,592	1,464	1,600	1,563	1,562	1,683	1,653
Mechanical	3,632	4,133	4,222	4,215	4,651	4,843	5,006	4,899	5,070
Metallurgical/materials	1,183	1,261	1,580	1,487	1,599	1,612	1,621	1,782	1,841
Mining	200	242	223	223	243	238	238	171	180
Nuclear	706	710	702	722	749	727	739	754	769
Petroleum	111	197	219	184	194	216	175	197	174
Engineering, n.e.c.	899	749	784	752	892	871	924	901	963
Sciences, total	67,478	68,365	69,268	69,424	71,574	71,697	72,220	73,589	75,080
Physical sciences	10,309	10,647	10,932	11,113	11,626	11,901	11,987	12,117	12,132
Astronomy	228	230	237	259	269	278	280	303	328
Chemistry	6,026	6,297	6,599	6,477	6,666	6,782	6,729	6,788	6,711
Physics	4,004	4,072	4,234	4,341	4,656	4,804	4,951	5,000	5,069
Physical sciences, n.e.c.	51	48	62	36	35	37	27	26	24
Earth, atmospheric, and ocean sciences	5,029	5,273	5,157	4,960	5,013	4,618	4,446	4,574	4,438
Atmospheric sciences	499	463	469	510	496	486	509	516	542
Geosciences	3,053	3,361	3,327	3,129	3,046	2,707	2,526	2,480	2,296
Oceanography	885	876	861	795	892	874	883	1,053	1,065
Earth, atmos., and ocean sci., n.e.c.	595	573	500	526	579	551	528	523	535
Mathematical sciences	4,255	4,439	4,612	4,831	5,100	5,531	5,744	5,920	6,030
Computer sciences	3,073	3,459	3,766	4,466	4,762	4,828	4,697	4,752	4,985
Agricultural sciences	8,188	8,100	7,970	7,526	7,648	7,546	7,464	7,251	7,293
Biological sciences	16,420	16,557	16,760	16,603	17,049	17,122	17,218	17,653	17,761
Anatomy	291	303	292	266	263	276	306	310	278
Biochemistry	1,681	1,770	1,897	2,057	2,125	2,039	2,089	2,115	2,157
Biology	1,977	2,001	2,054	1,964	2,010	2,096	2,122	2,334	2,348
Biochemistry/epidemiology	94	102	92	103	153	199	198	215	207
Biophysics	111	108	104	147	158	164	164	203	193
Botany	2,473	2,387	2,345	2,243	2,284	2,140	2,155	2,124	1,984
Cell biology	364	377	430	486	579	706	776	842	979
Ecology	606	596	634	623	591	546	573	582	581
Entomology/parasitology	1,145	1,126	1,093	1,010	986	917	923	895	909
Genetics	488	512	522	534	599	620	562	579	624
Microbiology	1,569	1,713	1,759	1,821	1,746	1,830	1,904	1,860	1,917
Nutrition	2,266	2,139	2,188	2,171	2,253	2,188	2,064	2,066	2,097
Pathology	414	425	391	380	405	460	435	451	425
Pharmacology	704	780	774	756	781	775	792	877	926
Physiology	688	692	750	763	740	766	745	788	787
Zoology	1,339	1,284	1,220	1,110	1,135	1,181	1,128	1,116	1,055
Biosciences, n.e.c.	210	242	215	169	241	219	282	296	294
Psychology	5,415	5,332	5,470	5,519	5,693	5,609	5,848	5,972	5,983
Social sciences	14,789	14,558	14,601	14,406	14,683	14,542	14,816	15,350	16,458
Agricultural economics	1,813	1,896	1,869	1,807	1,788	1,703	1,736	1,737	1,794
Anthropology	1,235	1,148	1,182	1,080	1,175	1,199	1,274	1,279	1,365
Economics (except agricultural)	3,637	3,452	3,240	3,238	3,184	3,107	3,035	3,140	3,260
Geography	892	848	844	845	895	948	903	986	1,038
History and philosophy of science	63	58	51	50	62	64	80	92	120
Linguistics	580	604	633	587	670	744	731	770	829
Political science	2,869	2,908	3,134	3,175	3,148	3,076	3,263	3,432	3,735
Sociology	1,746	1,740	1,743	1,716	1,854	1,866	1,928	1,948	2,089
Sociology/anthropology	258	237	219	215	219	222	255	275	309
Social sciences, n.e.c.	1,696	1,667	1,686	1,693	1,688	1,613	1,611	1,691	1,919
Total, health fields	6,820	6,781	6,951	7,136	7,082	7,026	7,434	7,567	7,992
Dentistry	157	144	177	171	180	188	201	170	185
Neurology	89	87	109	115	120	138	177	172	217
Nursing	1,781	1,805	1,784	1,721	1,732	1,684	1,795	1,862	1,874
Pharmaceutical sciences	752	693	673	693	721	687	721	784	786
Preventive medicine/community health	1,652	1,713	1,724	1,714	1,595	1,637	1,696	1,619	1,772
Speech pathology/audiology	1,364	1,335	1,389	1,450	1,431	1,219	1,322	1,320	1,364
Veterinary sciences	326	313	370	456	460	552	566	616	643
Clinical medicine, n.e.c.	403	342	333	353	337	316	343	386	411
Health related, n.e.c.	296	349	392	463	506	605	613	638	740

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-71. Full-time science and engineering graduate students in land-grant institutions by type and source of major support: 1982-90

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Type and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all types									
Total, all sources	96,745	98,863	100,470	101,033	105,236	105,670	107,098	109,082	111,659
Federal, total	21,082	20,822	21,021	21,825	22,847	24,586	25,011	25,783	26,457
Dept of Defense	2,198	2,515	2,638	2,518	3,880	3,597	2,651	2,763	2,655
Dept of HHS, total	3,438	3,133	3,269	3,784	3,795	4,056	4,412	4,402	3,685
NIH	3,767	3,797	3,827	3,881	4,125	4,251	4,781	4,858	3,020
Other HHS	1,671	1,336	1,442	1,903	1,670	1,805	1,631	1,544	3,635
NSF	4,519	4,627	4,743	4,900	5,224	5,571	5,657	5,919	5,980
USDA	NA	NA	NA	1,924	3,093	3,597	3,309	3,437	3,376
All other Federal	8,927	8,547	8,371	6,699	6,855	6,985	6,982	5,262	5,986
Institutional support	39,985	41,343	43,138	43,480	46,291	46,794	47,508	49,115	49,649
Other outside support, total	11,236	11,376	11,204	12,114	11,860	11,152	11,274	11,527	12,157
All other U.S.	7,022	7,381	7,473	8,772	8,468	7,967	8,206	8,739	9,301
Foreign	4,214	3,995	3,731	3,342	3,392	3,185	3,068	2,788	2,856
Self-support	24,442	25,322	25,107	23,614	24,238	23,338	23,305	22,657	23,396
Fellowships									
Total, all sources	7,681	7,386	7,523	7,914	8,128	7,700	7,909	8,680	9,433
Federal, total	1,690	1,610	1,732	1,870	1,955	1,810	1,876	2,145	2,722
Dept of Defense	48	59	86	84	102	141	152	192	283
Dept of HHS, total	281	223	272	298	279	238	245	241	287
NIH	214	160	205	195	184	150	161	161	207
Other HHS	67	63	63	103	95	88	84	80	80
NSF	549	551	580	612	651	620	704	795	958
USDA	NA	NA	794	115	138	124	80	85	100
All other Federal	812	777	794	761	785	687	695	832	1,094
Institutional support	2,795	2,846	2,907	3,333	3,386	3,496	3,736	4,119	4,223
Other outside support, total	3,196	2,930	2,884	2,711	2,787	2,394	2,297	2,416	2,488
All other U.S.	1,530	1,470	1,480	1,529	1,585	1,344	1,231	1,427	1,505
Foreign	1,666	1,460	1,404	1,182	1,202	1,050	1,066	989	983
Self-support	0	0	0	0	0	0	0	0	0
Traineeships									
Total, all sources	4,701	4,360	4,376	4,395	4,296	4,128	4,156	3,980	4,296
Federal, total	3,062	2,768	2,738	2,899	2,706	2,684	2,731	2,645	3,011
Dept of Defense	22	63	45	12	20	2	80	69	69
Dept of HHS, total	2,621	2,240	2,248	2,452	2,326	2,251	2,354	2,099	2,367
NIH	1,353	1,290	1,188	1,123	1,128	1,220	1,205	1,174	1,288
Other HHS	1,268	950	1,060	1,329	1,198	1,031	1,149	925	1,039
NSF	31	31	9	9	9	23	14	55	25
USDA	NA	NA	NA	52	32	71	31	34	51
All other Federal	388	434	436	374	319	277	252	418	499
Institutional support	1,203	1,114	1,192	1,074	1,185	1,044	1,064	1,020	1,021
Other outside support, total	436	478	446	422	405	400	361	315	264
All other U.S.	305	344	331	303	329	286	276	258	187
Foreign	131	134	115	119	76	114	85	57	77
Self-support	0	0	0	0	0	0	0	0	0
Research assistantships									
Total, all sources	28,358	28,973	30,074	31,601	33,819	35,571	37,064	39,109	39,407
Federal, total	15,226	15,376	15,151	15,635	16,706	18,395	18,959	19,750	19,347
Dept of Defense	1,814	2,061	2,058	1,948	2,180	2,773	3,031	3,094	2,674
Dept of HHS, total	2,429	2,538	2,617	2,896	3,060	3,367	3,649	3,901	3,883
NIH	2,126	2,256	2,320	2,470	2,725	2,997	3,275	3,386	3,389
Other HHS	303	282	297	426	335	370	374	515	494
NSF	3,889	4,014	4,036	4,171	4,465	4,833	4,864	5,024	4,912
USDA	NA	NA	NA	1,632	1,799	2,116	2,077	2,224	2,115
All other Federal	7,094	6,763	6,440	4,988	5,202	5,306	5,338	5,507	5,763
Institutional support	9,048	8,997	10,192	10,133	11,734	11,852	12,255	13,252	13,549
Other outside support, total	4,084	4,600	4,731	5,833	5,379	5,324	5,850	6,107	6,511
All other U.S.	3,677	4,210	4,334	5,496	5,011	4,930	5,447	5,690	6,038
Foreign	407	390	397	337	368	394	403	417	473
Self-support	0	0	0	0	0	0	0	0	0
Teaching assistantships									
Total, all sources	24,958	26,105	26,705	27,125	27,613	27,902	28,026	28,424	28,366
Federal, total	110	137	111	186	169	184	246	224	277
Dept of Defense	0	0	0	0	0	0	0	0	0
Dept of HHS, total	29	21	14	35	34	87	57	61	24
NIH	14	19	11	17	20	67	52	57	18
Other HHS	15	2	3	18	14	20	5	4	6
NSF	5	4	7	10	9	8	19	25	41
USDA	NA	NA	NA	38	31	12	35	27	37
All other Federal	76	112	90	103	95	77	135	111	175
Institutional support	24,639	25,810	26,398	26,807	27,344	27,593	27,675	28,041	27,909
Other outside support, total	209	158	196	132	100	125	105	159	180
All other U.S.	209	158	196	132	100	125	105	159	180
Foreign	0	0	0	0	0	0	0	0	0
Self-support	0	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table B-71. Full-time science and engineering graduate students in Land-grant institutions
by type and source of major support: 1982-90

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Type and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Other types of support									
Total, all sources	31,047	32,039	31,792	29,998	31,380	30,369	29,943	28,889	30,157
Federal, total	994	931	1,289	1,235	1,311	1,313	1,199	1,019	1,100
Dept of Defense	314	332	449	474	578	401	388	408	434
Dept of HHS, total	78	111	118	103	96	113	107	100	94
NIH	60	72	99	76	68	87	88	80	78
Other HHS	18	39	19	27	28	26	19	20	16
NSF	45	27	111	98	90	87	56	50	44
USDA	NA	NA	NA	87	93	74	86	67	73
All other Federal	557	461	611	473	454	638	562	394	455
Institutional support	2,300	2,576	2,449	2,133	2,642	2,809	2,778	2,683	2,947
Other outside support, total	3,311	3,210	2,947	3,016	3,189	2,909	2,661	2,530	2,714
All other U.S.	1,301	1,199	1,132	1,312	1,443	1,282	1,147	1,205	1,391
Foreign	2,010	2,011	1,815	1,704	1,746	1,627	1,514	1,325	1,323
Self-support	24,442	25,322	25,107	23,614	24,238	23,338	23,305	22,657	23,396

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table B-72. Part-time science and engineering graduate students in land-grant institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	25,307	25,659	24,994	26,543	26,543	26,351	27,021	28,394	30,294
Total, science/engineering fields	21,791	22,819	22,179	23,573	23,522	23,212	23,585	24,464	26,012
Engineering, total	6,568	7,394	6,680	7,401	7,902	8,134	7,819	8,098	9,013
Aerospace	72	185	217	239	245	217	204	206	294
Agricultural	117	185	170	165	159	118	143	165	128
Biomedical	58	75	50	42	47	41	87	123	113
Chemical	310	345	322	365	306	261	285	275	281
Civil	862	963	994	1,068	975	978	1,002	1,091	1,183
Electrical	1,748	1,975	1,894	2,277	2,447	2,781	2,584	2,578	2,679
Engineering science	197	241	280	325	416	440	436	484	872
Industrial	962	979	1,018	1,309	1,448	1,434	1,274	1,385	1,352
Mechanical	963	1,049	1,143	1,052	1,153	1,197	1,132	1,072	1,229
Metallurgical/materials	130	142	164	173	186	176	192	178	237
Mining	31	52	28	37	30	44	31	40	49
Nuclear	90	93	104	106	141	153	139	152	114
Petroleum	10	0	6	17	19	23	27	15	27
Engineering, n.e.c.	1,018	1,110	290	226	330	271	283	334	455
Sciences, total	15,223	15,425	15,499	16,172	15,620	15,078	15,766	16,366	16,999
Physical sciences	844	869	851	989	963	874	972	977	1,096
Astronomy	14	14	20	18	18	8	7	3	4
Chemistry	554	559	518	638	585	517	540	557	603
Physics	269	288	308	320	345	345	420	410	482
Physical sciences, n.e.c.	7	8	5	13	17	4	5	7	7
Earth, atmospheric, and ocean sciences	1,075	1,065	1,172	1,335	1,234	1,267	1,281	1,212	1,191
Atmospheric sciences	63	70	79	54	59	54	45	58	51
Geosciences	605	579	637	753	696	673	671	612	589
Oceanography	173	180	213	265	215	231	195	170	163
Earth, atmos., and ocean sci., n.e.c.	234	236	243	263	264	309	370	372	388
Mathematical sciences	667	752	849	788	856	765	907	863	1,057
Computer sciences	1,273	1,399	1,627	1,593	1,496	1,550	1,772	1,815	1,780
Agricultural sciences	1,664	1,720	1,599	1,607	1,502	1,375	1,330	1,467	1,484
Biological sciences	2,532	2,498	2,355	2,620	2,405	2,266	2,347	2,308	2,448
Anatomy	42	39	50	45	35	34	36	24	26
Biochemistry	110	103	89	73	112	69	75	96	91
Biology	307	317	288	380	340	382	389	347	352
Biometry/epidemiology	25	22	16	20	46	60	67	55	82
Biophysics	9	7	6	8	6	9	3	6	2
Botany	348	291	312	395	321	319	306	318	282
Cell biology	7	17	23	12	36	43	42	45	54
Ecology	52	54	51	36	38	44	46	54	55
Entomology/parasitology	164	138	133	160	162	148	134	134	154
Genetics	29	26	17	21	21	27	41	26	30
Microbiology	308	282	237	283	252	199	236	251	245
Nutrition	527	564	536	549	493	494	539	535	563
Pathology	142	156	136	142	108	67	49	64	70
Pharmacology	53	54	60	59	50	46	52	62	49
Physiology	112	71	60	82	67	67	84	55	55
Zoology	242	313	304	271	237	193	189	175	260
Biosciences, n.e.c.	55	44	37	84	81	65	59	61	78
Psychology	1,338	1,645	1,660	1,859	1,702	1,465	1,692	1,846	2,001
Social sciences	5,830	5,477	5,386	5,381	5,462	5,516	5,465	5,878	5,942
Agricultural economics	230	213	226	258	263	314	327	350	277
Anthropology	417	363	351	376	309	362	314	375	437
Economics (except agricultural)	852	713	739	727	796	744	640	734	677
Geography	243	218	212	172	202	223	234	310	292
History and philosophy of science	6	10	14	9	10	11	11	23	16
Linguistics	60	72	81	71	93	81	81	104	98
Political science	2,458	2,504	2,389	2,380	2,496	2,469	2,530	2,544	2,806
Sociology	604	484	408	463	365	428	530	530	486
Sociology/anthropology	52	53	57	59	84	79	89	98	119
Social sciences, n.e.c.	908	847	909	866	844	796	813	810	734
Total, health fields	3,516	2,840	2,815	2,970	3,021	3,139	3,436	3,930	4,282
Dentistry	22	13	7	13	14	9	22	25	14
Neurology	1	2	1	1	2	1	3	12	11
Nursing	1,504	1,658	1,696	1,728	1,850	1,819	2,019	2,335	2,518
Pharmaceutical sciences	106	117	104	111	121	90	104	135	157
Preventive medicine/community health	402	380	355	441	317	454	485	631	683
Speech pathology/audiology	1,181	336	323	345	346	280	308	302	335
Veterinary sciences	87	101	124	113	107	118	128	117	170
Clinical medicine, n.e.c.	70	65	51	37	56	49	51	55	50
Health related, n.e.c.	143	168	154	181	208	319	316	318	344

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-1. Science and engineering graduate students in doctorate-granting institutions
by enrollment status and field: 1975-90

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Page 1 of 6										
Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	291,775	203,675	24,906	11,060	14,668	7,365	10,072	41,714	27,822	66,068
1976	295,379	206,947	25,190	11,845	15,016	7,563	10,601	42,737	29,002	64,993
1977	303,272	208,338	25,180	12,403	14,093	7,829	10,947	44,032	28,983	64,871
1978	299,755	203,938	25,714	12,243	13,194	8,329	11,088	43,116	27,892	63,362
1979	312,642	211,359	25,042	12,624	13,265	9,680	11,294	43,054	28,797	67,603
1980	322,665	216,439	25,387	12,788	13,622	11,350	11,579	42,758	29,957	68,998
1981	329,522	217,526	25,793	13,115	14,030	12,149	11,373	42,062	29,873	68,131
1982	336,080	220,606	26,511	13,804	14,770	12,583	11,596	41,916	29,981	66,445
1983	342,956	220,389	27,747	14,281	14,885	13,306	11,538	41,609	30,011	62,012
1984	346,264	220,450	28,410	14,286	15,067	13,366	11,327	41,963	30,033	58,998
1985	355,875	226,075	29,312	14,217	15,268	13,823	10,680	42,490	30,490	59,795
1986	366,927	230,028	30,543	13,989	15,663	15,204	10,675	43,369	30,656	59,929
1987	372,101	233,618	30,967	13,368	16,192	16,083	10,339	43,699	31,554	61,416
1988	377,360	237,438	31,212	12,871	16,892	16,742	10,302	44,695	32,515	62,209
1989	384,014	241,688	31,807	12,677	16,905	16,520	10,355	45,814	33,575	64,035
1990	398,405	249,760	32,504	12,866	17,297	27,667	10,445	47,054	34,685	67,242
Full-time										
1975	206,634	152,977	21,450	9,050	10,147	4,164	8,512	35,162	20,263	44,229
1976	209,976	156,264	21,743	9,735	10,379	4,449	9,040	36,001	22,019	42,898
1977	212,450	156,513	21,868	10,065	9,864	4,258	9,296	36,501	21,743	42,918
1978	209,225	152,231	21,495	9,997	9,296	4,426	9,259	35,956	20,701	41,101
1979	216,680	155,923	21,844	10,186	9,152	5,130	9,371	35,087	21,281	42,972
1980	222,836	158,668	22,252	10,315	9,360	5,900	9,591	35,851	22,164	43,235
1981	226,748	159,859	22,612	10,543	9,688	6,472	9,656	35,504	22,235	43,149
1982	229,860	160,262	23,339	10,918	10,178	7,911	9,519	35,248	21,894	41,255
1983	235,957	162,815	24,502	11,497	10,316	9,276	9,420	35,234	22,150	40,420
1984	237,293	162,622	25,147	11,266	10,613	10,108	9,323	35,688	21,600	38,877
1985	241,458	165,502	25,938	10,871	11,160	12,374	8,721	35,696	21,334	39,408
1986	250,251	170,055	27,069	10,862	11,727	13,389	8,852	36,609	21,995	39,552
1987	254,556	172,562	27,652	10,097	12,345	13,639	8,611	37,236	22,629	40,353
1988	259,596	175,583	27,778	9,837	12,809	13,701	8,588	38,259	23,376	41,235
1989	266,937	180,529	28,429	9,715	13,024	14,070	8,538	39,443	24,661	42,649
1990	275,262	185,844	28,845	9,848	13,202	14,701	8,552	40,132	24,930	45,634
Part-time										
1975	85,141	50,698	3,456	2,010	4,521	3,201	1,560	6,552	7,559	21,839
1976	85,403	50,683	3,447	2,110	4,637	3,114	1,561	6,736	6,983	22,095
1977	90,822	51,825	3,512	2,338	4,229	3,571	1,651	7,531	7,240	21,953
1978	90,530	51,707	3,219	2,246	3,898	3,903	1,829	7,160	7,191	22,261
1979	95,962	52,436	3,198	2,438	4,113	4,550	1,923	7,067	7,516	24,631
1980	99,829	53,771	3,135	2,473	4,262	5,450	1,988	6,907	7,793	25,763
1981	102,774	57,667	3,181	2,572	4,342	6,677	1,717	6,558	7,638	26,982
1982	106,220	60,344	3,176	2,886	4,592	6,672	2,077	6,668	8,087	25,190
1983	106,999	57,574	3,263	2,784	4,569	9,030	2,118	6,375	7,861	21,592
1984	108,971	57,828	3,263	2,020	4,454	10,258	2,004	6,275	8,433	20,121
1985	114,417	60,573	3,274	2,346	4,108	11,449	1,959	6,794	9,156	20,387
1986	116,676	59,973	3,274	2,74	3,936	11,815	1,823	6,760	8,661	20,377
1987	117,545	61,056	3,15	2,71	3,847	12,444	1,728	6,463	8,925	21,063
1988	117,764	61,855	3,234	2,034	4,083	13,450	1,714	6,436	9,139	20,974
1989	117,077	61,159	3,378	2,962	3,881	12,450	1,817	6,371	8,914	21,386
1990	123,143	63,916	3,659	3,018	4,095	12,966	1,893	6,922	9,755	21,608

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-1. Science and engineering graduate students in doctorate-granting institutions by enrollment status and field: 1975-90

Page 2 of										
Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	65,184	1,636	5,236	11,924	15,808	11,135	8,167	2,313	8,965	22,916
1976	63,463	1,449	5,466	11,352	15,409	10,180	7,935	2,333	9,359	22,969
1977	65,013	1,496	5,456	11,834	16,538	9,834	8,198	2,491	9,166	24,921
1978	64,240	1,450	5,611	11,891	16,478	8,967	8,122	2,487	9,234	31,577
1979	67,491	1,476	5,870	12,340	16,881	10,114	8,602	2,556	9,552	33,792
1980	69,875	1,730	6,283	12,516	18,126	9,067	8,602	2,839	10,159	36,351
1981	74,366	1,876	6,782	13,294	18,900	9,188	9,155	2,047	11,366	37,630
1982	78,180	1,933	7,509	13,533	20,582	9,008	9,913	2,030	11,818	37,294
1983	85,309	2,376	8,076	14,414	23,545	8,794	12,089	2,338	12,677	37,258
1984	87,100	2,413	7,928	14,737	24,599	8,940	12,966	2,772	12,945	38,714
1985	90,222	2,626	7,767	14,421	26,375	10,084	13,246	2,818	13,885	39,578
1986	95,772	2,891	7,617	14,472	27,940	11,068	14,607	2,039	13,138	41,127
1987	96,969	2,086	7,780	13,831	29,028	11,687	15,090	4,187	13,280	41,514
1988	96,683	2,281	7,243	14,096	29,778	10,819	15,050	4,164	15,552	43,239
1989	96,878	3,492	7,012	14,136	30,213	10,324	14,937	4,424	15,540	43,468
1990	100,253	3,915	7,274	14,773	30,453	10,288	15,511	4,684	15,355	48,392
Full-time										
1975	37,166	1,225	3,718	7,196	8,219	4,064	4,879	1,780	6,085	16,491
1976	36,311	1,153	3,988	6,887	8,092	3,489	4,874	1,853	6,975	17,401
1977	36,772	1,178	4,150	7,250	8,353	3,228	4,797	1,941	6,875	19,165
1978	37,046	1,135	4,226	7,448	8,334	3,140	4,868	1,961	6,934	19,948
1979	39,425	1,151	4,513	7,757	8,857	3,626	5,346	2,120	6,055	21,332
1980	41,929	1,324	4,792	8,100	9,693	3,576	5,730	2,236	6,478	22,379
1981	44,815	1,480	5,311	8,806	10,156	3,432	6,337	2,436	6,857	22,074
1982	48,692	1,519	5,994	9,911	11,277	3,590	7,128	2,453	7,299	22,096
1983	52,684	1,825	6,397	9,432	12,854	3,142	8,178	2,686	7,691	20,458
1984	53,963	1,840	6,258	10,219	13,461	3,276	8,511	2,863	7,535	20,708
1985	54,807	1,980	6,045	9,850	14,358	3,355	8,683	2,863	7,666	21,149
1986	59,013	2,138	6,093	10,074	15,832	3,715	9,599	3,070	8,245	21,183
1987	60,325	2,355	6,251	9,586	16,457	4,067	9,966	3,370	8,273	21,669
1988	61,479	2,517	5,900	9,829	17,012	4,177	10,198	3,398	8,448	22,534
1989	62,533	2,742	5,739	9,852	17,597	4,491	10,147	3,657	8,308	23,875
1990	64,169	2,946	5,895	10,164	17,879	4,543	10,505	3,824	8,413	25,249
Part-time										
1975	28,018	411	1,518	4,728	7,589	7,071	3,288	533	2,880	6,425
1976	27,152	296	1,478	4,445	7,317	6,691	3,061	480	3,384	7,568
1977	28,241	318	1,306	4,584	8,185	6,606	3,401	550	3,291	10,756
1978	27,194	315	1,385	4,443	8,144	5,827	3,254	526	3,300	11,629
1979	28,066	325	1,357	4,583	8,024	6,488	3,258	536	3,497	12,460
1980	27,946	406	1,491	4,416	8,433	5,491	3,425	603	3,681	14,112
1981	29,551	396	1,471	4,488	8,744	5,756	3,576	611	4,509	15,556
1982	29,488	414	1,515	4,101	9,305	5,418	3,639	577	4,519	16,388
1983	32,625	551	1,679	4,503	10,691	5,652	3,911	652	4,986	18,006
1984	33,137	573	1,670	4,518	11,138	5,664	4,455	709	4,410	18,429
1985	35,415	646	1,722	4,571	12,017	6,729	4,563	748	4,893	19,944
1986	36,759	753	1,524	4,398	12,108	7,353	4,008	722	4,007	19,845
1987	36,644	731	1,529	4,245	12,571	7,620	4,124	817	3,804	20,705
1988	37,204	764	1,343	4,267	12,766	6,642	4,852	766	4,032	21,573
1989	34,345	750	1,273	4,284	12,616	5,833	4,790	767	4,942	23,143
1990	36,084	969	1,379	4,609	12,574	5,745	5,006	860		

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-2. Science and engineering graduate students in doctorate-granting institutions by sex and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	291,775	203,675	24,906	11,060	14,668	7,365	10,072	41,714	27,822	66,068
1976	295,379	206,947	25,190	11,845	15,016	7,563	10,601	42,737	29,002	64,993
1977	303,272	208,338	25,180	12,403	14,093	7,829	10,947	44,032	28,983	64,871
1978	299,755	203,938	24,714	12,243	13,194	8,329	11,088	43,116	27,892	63,362
1979	312,642	211,359	25,042	12,624	13,265	9,680	11,294	43,054	28,797	67,603
1980	322,665	216,439	25,387	12,788	13,622	11,350	11,579	42,358	29,957	68,998
1981	329,522	217,526	25,793	13,115	14,030	13,149	11,373	42,062	29,873	68,131
1982	336,080	220,606	26,511	13,804	14,770	15,583	11,596	41,916	29,981	66,445
1983	342,956	220,389	27,747	14,281	14,885	18,306	11,538	41,609	30,011	62,012
1984	346,264	220,450	28,410	14,286	15,067	20,366	11,327	41,963	30,033	58,998
1985	355,875	226,075	29,312	14,217	15,268	23,823	10,680	42,490	30,490	59,795
1986	366,927	230,028	30,543	13,989	15,663	25,204	10,675	43,369	30,656	59,929
1987	372,101	233,618	30,967	13,368	16,192	26,083	10,339	43,699	31,254	61,416
1988	377,360	237,438	31,212	12,871	16,892	26,742	10,302	44,695	32,515	62,209
1989	384,014	241,688	31,807	12,677	16,905	26,520	10,355	45,814	33,575	64,035
1990	398,405	249,760	32,504	12,866	17,297	27,667	10,445	47,054	34,685	67,242
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	218,659	147,097	21,524	10,317	10,674	6,510	8,964	29,237	15,906	43,965
1978 1/.....	210,985	141,006	20,933	9,935	9,953	6,818	8,860	27,922	14,568	42,017
1979	214,554	142,605	21,010	9,963	9,939	7,793	8,778	27,154	14,266	43,702
1980	217,474	143,149	21,172	9,879	10,162	8,880	8,862	26,473	14,330	43,391
1981	218,765	141,345	21,237	9,982	10,288	9,910	8,776	25,491	13,716	41,945
1982	221,035	141,489	21,589	10,378	10,658	11,448	8,726	24,719	13,225	40,746
1983	225,804	140,465	22,366	10,671	10,655	13,325	8,619	24,282	12,999	37,548
1984	227,429	140,670	22,736	10,740	10,833	15,065	8,418	24,406	12,648	35,824
1985	232,937	143,381	23,318	10,601	10,823	17,934	7,909	24,480	12,293	36,023
1986	239,423	145,374	24,199	10,344	11,072	19,272	7,908	24,718	12,005	35,856
1987	242,141	146,477	24,374	9,878	11,433	19,867	7,597	24,840	12,056	36,432
1988	241,787	146,823	24,254	9,390	11,963	20,246	7,457	25,005	12,049	36,459
1989	242,949	147,840	24,520	9,137	11,817	20,311	7,458	25,247	12,173	37,177
1990	248,933	150,811	24,924	9,117	12,041	21,370	7,359	25,678	11,963	38,359
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	84,613	61,241	3,656	2,086	3,419	1,319	1,983	14,795	13,077	20,906
1978 1/.....	88,986	63,004	3,781	2,308	3,241	1,511	2,228	15,194	13,335	21,406
1979	98,088	68,754	4,032	2,661	3,326	1,887	2,516	15,900	14,531	23,901
1980	105,191	73,290	4,215	2,909	3,460	2,470	2,717	16,285	15,627	25,607
1981	110,757	76,181	4,556	3,133	3,742	3,239	2,597	16,571	16,157	26,186
1982	115,045	79,117	4,922	3,426	4,112	4,135	2,870	17,197	16,756	25,699
1983	117,152	79,924	5,381	3,610	4,230	4,981	2,919	17,327	17,012	24,464
1984	118,835	79,780	5,674	3,546	4,234	5,301	2,909	17,557	17,385	23,174
1985	122,938	82,694	5,994	3,616	4,445	5,889	2,771	18,010	18,197	23,772
1986	127,504	84,654	6,344	3,645	4,591	5,932	2,767	18,651	18,651	24,073
1987	129,960	87,141	6,593	3,490	4,759	6,216	2,742	18,859	19,498	24,984
1988	135,573	90,615	6,958	3,481	4,929	6,496	2,845	19,690	20,466	25,750
1989	141,065	93,848	7,287	3,540	5,088	6,209	2,897	20,567	21,402	26,858
1990	149,472	98,949	7,580	3,749	5,256	6,297	3,086	21,376	22,722	28,883

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-2. Science and engineering graduate students in doctorate-granting institutions by sex and field: 1975-90

Page 2 of 2

Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	65,184	1,636	5,236	11,924	15,808	11,135	8,167	2,313	8,965	22,916
1976	63,463	1,449	5,466	11,332	15,409	10,180	7,935	2,333	9,359	24,969
1977	65,013	1,496	5,456	11,834	16,538	9,834	8,198	2,491	9,166	29,921
1978	64,240	1,450	5,611	11,891	16,478	8,967	8,122	2,487	9,234	31,577
1979	67,491	1,476	5,870	12,340	16,881	10,114	8,602	2,656	9,552	33,792
1980	69,875	1,730	6,283	12,516	18,126	9,067	9,155	2,839	10,159	36,351
1981	74,366	1,876	6,782	13,294	18,900	9,188	9,913	3,047	11,366	37,630
1982	78,180	1,933	7,509	13,533	20,582	9,008	10,767	3,030	11,818	37,294
1983	85,309	2,376	8,076	14,414	23,545	8,794	12,089	3,338	12,677	37,258
1984	87,100	2,413	7,928	14,737	24,599	8,940	12,966	3,572	11,945	38,714
1985	90,222	2,626	7,767	14,421	26,375	10,084	13,246	3,818	11,885	39,578
1986	95,772	2,891	7,617	14,472	27,940	11,068	14,607	4,039	13,138	41,127
1987	96,969	2,086	7,780	13,831	29,028	11,687	15,090	4,187	12,280	41,514
1988	96,683	2,281	7,243	14,096	29,778	10,819	15,050	4,164	12,252	43,239
1989	96,878	2,492	7,012	14,136	30,213	10,324	14,937	4,424	12,340	45,448
1990	100,253	3,915	7,274	14,773	30,453	10,288	15,511	4,684	13,355	48,392
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	61,442	1,463	5,075	10,979	15,852	9,131	7,941	2,318	8,683	10,120
1978	59,963	1,411	5,127	10,861	15,704	8,147	7,798	2,276	8,639	10,016
1979	61,980	1,427	5,248	11,027	15,981	8,946	8,167	2,383	8,801	9,969
1980	63,775	1,656	5,585	11,120	17,179	7,812	8,651	2,542	9,230	10,550
1981	67,043	1,809	5,983	11,678	17,701	7,744	9,314	2,671	10,143	10,377
1982	69,867	1,823	6,600	11,725	19,124	7,480	10,085	2,622	10,408	9,679
1983	76,037	2,252	7,023	12,513	21,637	7,323	11,325	2,903	11,061	9,302
1984	77,346	2,280	6,924	12,676	22,583	7,374	12,062	3,114	10,333	9,413
1985	79,789	2,459	6,728	12,271	24,142	8,374	12,304	3,246	10,265	9,767
1986	84,073	2,690	6,551	12,296	25,260	9,045	13,533	3,403	11,295	9,976
1987	84,919	2,863	6,598	11,827	26,220	9,517	13,922	3,502	10,470	10,745
1988	84,316	2,052	6,142	11,909	26,773	8,775	13,748	3,451	10,466	10,648
1989	84,121	2,251	5,975	11,814	27,061	8,295	13,649	3,659	10,417	10,988
1990	86,598	2,626	6,124	12,249	27,100	8,295	14,180	3,869	11,155	11,524
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	3,571	33	381	855	686	703	257	173	483	19,801
1978	4,306	39	484	1,059	774	820	324	211	595	21,676
1979	5,511	49	622	1,313	900	1,168	435	273	751	23,823
1980	6,100	74	698	1,396	947	1,255	504	297	929	25,801
1981	7,323	67	799	1,616	1,199	1,444	599	376	1,223	27,253
1982	8,313	110	909	1,808	1,458	1,528	682	408	1,410	27,615
1983	9,272	124	1,053	1,901	1,908	1,471	764	435	1,616	27,956
1984	9,754	133	1,004	2,061	2,016	1,566	904	458	1,612	29,301
1985	10,433	167	1,039	2,150	2,233	1,710	942	572	1,620	29,811
1986	11,699	201	1,066	2,176	2,680	2,023	1,074	636	1,843	31,151
1987	12,050	223	1,182	2,004	2,808	2,170	1,168	685	1,810	30,769
1988	12,367	229	1,101	2,187	3,005	2,044	1,302	713	1,786	32,591
1989	12,757	241	1,037	2,322	3,152	2,029	1,288	765	1,923	34,460
1990	13,655	289	1,150	2,524	3,353	1,993	1,331	815	2,200	36,868

1/ Distribution by sex data were not requested in 1978; totals represent estimates based on 1977 and 1979 data.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-3. Full-time science and engineering graduate students in doctorate-granting institutions
by sex and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	206,634	152,977	21,450	9,050	10,147	4,164	8,512	35,162	20,263	44,229
1976	209,976	156,264	21,743	9,735	10,379	4,449	9,040	36,001	22,019	42,898
1977	212,450	156,513	21,868	10,065	9,864	4,258	9,296	36,501	21,743	42,918
1978	209,225	152,231	21,495	9,997	9,296	4,426	9,259	35,956	20,701	41,101
1979	216,680	155,923	21,844	10,186	9,152	5,130	9,371	35,987	21,281	42,972
1980	222,836	158,668	22,252	10,315	9,360	5,900	9,591	35,851	22,164	43,255
1981	226,748	159,859	22,612	10,543	9,688	6,472	9,656	35,504	22,235	43,149
1982	229,860	160,262	23,339	10,918	10,178	7,911	9,519	35,248	22,894	41,255
1983	235,957	162,815	24,502	11,497	10,316	9,276	9,420	35,234	22,150	40,420
1984	237,293	162,622	25,147	11,266	10,613	10,108	9,323	35,688	21,600	38,877
1985	241,458	165,502	25,938	10,871	11,160	12,374	8,721	35,696	21,334	39,408
1986	250,251	170,055	27,069	10,862	11,727	13,389	8,852	36,609	22,629	39,552
1987	254,556	172,562	27,652	10,097	12,345	13,639	8,611	37,236	22,629	40,353
1988	259,596	175,583	27,778	9,837	12,809	13,701	8,588	38,259	23,376	41,235
1989	266,937	180,529	28,429	9,715	13,024	14,070	8,538	39,443	24,661	42,649
1990	275,262	185,844	28,845	9,848	13,202	14,701	8,552	40,132	24,930	45,634
Men										
1975	157,694	114,442	18,769	7,826	8,026	3,573	7,386	25,100	11,926	31,836
1976	155,079	113,659	18,802	8,173	8,098	3,755	7,518	24,896	12,576	29,741
1977	153,106	111,476	18,803	8,333	7,727	3,573	7,571	24,582	11,953	28,934
1978 1/.....	148,116	106,701	18,346	8,089	7,274	3,675	7,364	23,673	10,960	27,320
1979	150,286	107,141	18,501	8,034	7,153	4,213	7,260	23,139	10,832	28,009
1980	152,040	106,682	18,722	7,960	7,222	4,668	7,299	23,654	10,752	27,405
1981	153,222	106,053	18,797	8,057	7,327	5,003	7,402	23,126	10,351	26,990
1982	155,110	105,162	19,134	8,228	7,626	5,942	7,137	23,351	9,833	25,911
1983	159,862	106,449	19,867	8,645	7,650	7,066	7,039	23,186	9,840	25,156
1984	160,561	106,311	20,254	8,540	7,876	7,734	6,894	23,285	9,283	24,445
1985	162,990	107,934	20,745	8,154	8,191	9,747	6,466	23,129	8,879	24,623
1986	168,587	110,085	21,534	8,049	8,573	10,533	6,583	23,372	8,853	24,588
1987	171,069	110,817	21,853	7,500	9,038	10,787	6,363	23,588	8,864	24,824
1988	171,942	110,905	21,646	7,197	9,356	10,807	6,251	23,966	8,700	24,982
1989	174,784	112,756	21,984	7,053	9,323	11,257	6,178	22,342	8,967	25,652
1990	178,129	114,659	22,207	7,038	9,394	11,744	6,057	22,456	8,881	26,882
Women										
1975	48,940	38,535	2,681	1,224	2,121	591	1,126	10,062	8,337	12,393
1976	54,897	42,605	2,941	1,562	2,281	694	1,422	11,105	9,443	13,157
1977	59,344	45,037	3,065	1,732	2,137	685	1,725	11,919	9,790	13,984
1978 1/.....	61,264	45,640	3,149	1,908	2,022	751	1,895	12,283	9,745	13,887
1979	66,394	48,782	3,343	2,152	1,999	917	2,111	12,848	10,449	14,963
1980	70,796	51,986	3,530	2,355	2,138	1,232	2,292	13,197	11,412	15,830
1981	73,526	53,806	3,815	2,486	2,361	1,469	2,254	13,378	11,884	16,159
1982	74,750	55,100	4,205	2,690	2,552	1,969	2,382	13,897	12,061	15,344
1983	76,095	56,366	4,635	2,852	2,666	2,210	2,381	14,048	12,310	15,264
1984	76,732	56,311	4,893	2,726	2,737	2,374	2,429	14,403	12,317	14,432
1985	78,468	57,568	5,193	2,717	2,969	2,627	2,255	14,567	12,455	14,785
1986	81,664	59,970	5,535	2,813	3,154	2,856	2,269	15,237	13,142	14,964
1987	83,487	61,745	5,799	2,597	3,307	2,852	2,248	15,648	13,765	15,599
1988	87,654	64,678	6,132	2,640	3,453	2,894	2,337	16,293	14,676	16,253
1989	92,153	67,773	6,445	2,662	3,701	2,813	2,360	17,101	15,694	16,997
1990	97,133	71,185	6,638	2,810	3,808	2,957	2,495	17,676	16,049	18,752

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-3. Full-time science and engineering graduate students in doctorate-granting institutions by sex and field: 1975-90

Page 2 of 2

Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	37,166	1,225	3,718	7,196	8,219	4,064	4,879	1,780	6,085	16,491
1976	36,311	1,153	3,988	6,887	8,092	4,089	4,874	1,853	5,975	17,401
1977	36,772	1,178	4,150	7,250	8,353	4,228	4,797	1,941	5,875	19,165
1978	37,046	1,135	4,226	7,448	8,334	4,140	4,868	1,961	5,934	19,948
1979	39,425	1,151	4,513	7,757	8,857	4,626	5,346	2,120	6,055	21,332
1980	41,929	1,324	4,792	8,100	9,693	5,76	5,730	2,236	6,478	22,239
1981	44,815	1,480	5,311	8,806	10,156	4,32	6,337	2,436	6,857	22,074
1982	48,692	1,519	5,994	9,432	11,277	590	7,128	2,453	7,299	20,906
1983	52,684	1,825	6,397	9,911	12,854	142	8,178	2,686	7,591	20,458
1984	53,963	1,840	6,258	10,219	13,461	276	8,511	2,863	7,535	20,708
1985	54,807	1,980	6,045	9,850	14,358	355	8,683	3,070	7,466	21,149
1986	59,013	2,138	6,093	10,074	15,832	715	9,599	3,317	8,245	21,183
1987	60,325	2,355	6,251	9,586	16,457	4,067	9,966	3,370	8,273	21,669
1988	61,479	2,517	6,000	9,829	17,012	4,177	10,198	3,398	8,448	22,534
1989	62,533	2,742	5,739	9,852	17,597	4,491	10,147	3,657	8,308	23,875
1990	64,169	2,946	5,895	10,164	17,879	4,543	10,505	3,824	8,413	25,249
Men										
1975	35,296	1,205	3,552	6,762	7,991	3,586	4,767	1,681	5,752	7,956
1976	34,322	1,130	3,746	6,395	7,796	3,111	4,754	1,746	5,644	7,998
1977	34,446	1,151	3,864	6,617	7,976	3,255	4,660	1,801	5,722	7,184
1978	34,291	1,105	3,874	6,667	7,935	3,210	4,688	1,794	5,510	7,124
1979	35,949	1,115	4,060	7,669	8,407	3,061	5,091	1,908	5,542	7,196
1980	38,014	1,270	4,304	7,075	9,149	3,932	5,416	2,006	5,862	7,344
1981	40,182	1,429	4,749	7,579	9,464	3,761	5,994	2,152	6,054	7,987
1982	43,453	1,466	5,301	8,080	10,480	3,850	6,704	2,148	6,444	6,495
1983	47,142	1,745	5,576	8,521	11,937	3,554	7,708	2,366	6,735	6,271
1984	47,970	1,754	5,485	8,685	12,355	3,671	7,963	2,511	6,546	6,280
1985	48,593	1,854	5,258	8,276	13,204	3,739	8,137	2,638	6,487	6,463
1986	52,091	1,990	5,278	8,485	14,419	3,992	8,983	2,810	7,134	6,411
1987	53,200	2,190	5,346	8,165	14,976	3,344	9,263	2,821	7,095	7,052
1988	54,029	2,351	5,087	8,271	15,403	3,455	9,386	2,838	7,238	7,008
1989	54,566	2,562	4,931	8,192	15,858	3,629	9,312	3,038	7,044	7,462
1990	55,662	2,748	4,985	8,359	15,982	3,671	9,675	3,176	7,066	7,808
Women										
1975	1,870	20	166	434	228	478	112	99	333	8,535
1976	1,989	23	242	492	296	378	120	107	331	10,303
1977	2,326	27	286	633	377	373	137	140	353	11,981
1978	2,766	30	352	792	399	422	180	167	424	12,858
1979	3,476	36	453	992	450	565	255	212	513	14,136
1980	3,915	54	488	1,025	544	644	314	230	616	14,895
1981	4,633	51	562	1,227	692	671	343	284	803	15,087
1982	5,239	73	693	1,352	797	740	424	305	855	14,411
1983	5,542	80	821	1,390	917	588	470	320	956	14,187
1984	5,993	86	773	1,334	1,106	605	548	352	989	14,428
1985	6,214	126	787	1,374	1,154	616	546	432	979	14,686
1986	6,922	148	815	1,589	1,413	723	616	507	1,111	14,772
1987	7,125	165	905	1,421	1,481	723	703	549	1,178	14,617
1988	7,450	166	813	1,558	1,609	722	812	560	1,210	15,526
1989	7,967	180	808	1,660	1,739	862	835	619	1,264	16,413
1990	8,507	198	910	1,805	1,897	872	830	648	1,347	17,441

1/ Distribution by sex data were not requested in 1978; totals represent estimates based on 1977 and 1979 data.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-4. Full-time science and engineering graduate students in doctorate-granting institutions by citizenship and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	206,634	152,977	21,450	9,050	10,147	4,164	8,512	35,162	20,263	44,229
1976	209,976	156,264	21,743	9,735	10,379	4,449	9,040	36,001	22,019	42,898
1977	212,450	158,513	21,868	10,065	9,864	4,258	9,296	36,501	21,743	42,918
1978	209,225	156,231	21,495	9,997	9,296	4,426	9,259	36,956	20,701	41,101
1979	216,680	158,923	21,844	10,186	9,152	5,130	9,371	36,987	21,281	42,972
1980	222,836	158,668	22,252	10,315	9,360	5,900	9,591	37,851	22,164	43,235
1981	226,748	159,859	22,612	10,543	9,688	6,472	9,656	38,204	22,335	43,149
1982	229,860	160,262	23,339	10,918	10,178	7,911	9,519	38,248	21,894	41,255
1983	235,957	162,815	24,502	11,497	10,316	9,276	9,420	38,234	22,150	40,420
1984	237,293	162,622	25,147	11,266	10,613	10,108	9,323	38,688	22,600	38,877
1985	241,458	165,502	25,938	10,871	11,160	12,374	8,721	38,696	23,334	39,408
1986	250,251	170,055	27,069	10,862	11,727	13,389	8,852	38,609	23,995	39,552
1987	254,556	172,562	27,652	10,097	12,345	13,639	8,611	38,236	24,629	40,353
1988	259,596	175,583	27,778	9,837	12,809	13,701	8,588	38,259	25,376	41,235
1989	266,937	180,529	28,429	9,715	13,024	14,070	8,538	39,443	26,661	42,649
1990	275,262	185,844	28,845	9,848	13,202	14,701	8,552	40,132	24,930	45,634
U.S. citizens										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1980	174,389	129,704	16,665	8,977	6,209	4,030	7,432	31,497	21,096	33,798
1981	174,333	128,724	16,531	9,076	6,162	4,266	7,367	30,853	21,376	33,093
1982	174,739	128,111	17,047	9,313	6,457	5,139	7,237	30,371	20,958	31,589
1983	176,515	127,852	17,458	9,842	6,236	5,763	7,046	29,889	21,214	30,404
1984	176,435	126,563	17,719	9,716	6,236	6,109	7,019	30,065	20,676	28,993
1985	175,808	125,790	17,685	9,236	6,509	7,481	6,436	29,492	20,302	28,649
1986	177,799	126,607	17,778	9,000	6,776	7,943	6,372	29,560	20,964	28,214
1987	178,530	126,588	17,856	8,157	7,052	7,929	6,064	29,318	21,539	28,673
1988	178,764	126,515	17,529	7,695	7,222	7,671	6,045	29,325	22,165	28,863
1989	183,040	129,157	17,560	7,419	7,220	7,710	6,055	29,485	23,415	30,293
1990	188,099	132,432	17,501	7,432	7,625	7,766	5,987	29,498	23,581	33,042
Non-U.S. citizens										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1980	48,447	28,964	5,587	1,338	3,151	1,870	2,159	4,354	1,068	9,437
1981	52,415	31,135	6,081	1,467	3,526	2,206	2,289	4,651	859	10,056
1982	55,121	32,151	6,292	1,605	3,721	2,772	2,282	4,877	936	9,666
1983	59,442	34,963	7,044	1,655	4,080	3,513	2,374	5,345	936	10,016
1984	60,858	36,059	7,428	1,550	4,347	3,999	2,304	5,623	924	9,884
1985	65,650	39,712	8,253	1,635	4,651	4,893	2,285	6,204	1,032	10,759
1986	72,452	43,448	9,291	1,862	4,951	5,446	2,480	7,049	1,031	11,338
1987	76,026	45,974	9,796	1,940	5,293	5,710	2,547	7,918	1,090	11,680
1988	80,832	49,068	10,249	2,142	5,587	6,030	2,543	8,934	1,211	12,372
1989	83,897	51,372	10,869	2,296	5,804	6,360	2,483	9,958	1,246	12,356
1990	87,163	53,412	11,344	2,416	5,577	6,935	2,565	10,634	1,349	12,592

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-4. Full-time science and engineering graduate students in doctorate-granting institutions by citizenship and field: 1975-90

Page 2 of 2

Page 2 of 3										
Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	37,166	1,225	3,718	7,196	8,219	4,064	4,879	1,780	6,085	16,491
1976	36,311	1,153	3,988	6,887	8,092	4,489	4,874	1,853	6,975	17,401
1977	36,772	1,178	4,150	6,250	8,353	4,228	4,797	1,941	5,875	19,165
1978	37,046	1,135	4,226	7,448	8,334	4,140	4,868	1,961	5,934	19,948
1979	39,425	1,151	4,513	7,757	8,857	4,626	5,346	2,120	6,055	21,332
1980	41,929	1,324	4,792	8,100	9,693	5,766	5,730	2,236	6,478	22,239
1981	44,815	1,480	5,311	8,806	10,156	5,432	6,337	2,436	6,857	23,074
1982	48,692	1,519	5,994	9,432	11,277	5,590	7,128	2,453	7,299	24,906
1983	52,684	1,825	6,397	9,911	12,854	5,142	8,178	2,686	7,691	26,458
1984	53,963	1,840	6,258	10,219	13,461	5,276	8,511	2,863	7,535	26,708
1985	54,807	1,980	6,045	9,850	14,358	5,355	8,683	3,070	7,466	27,149
1986	59,013	2,138	6,093	10,074	15,832	5,715	9,599	3,317	8,245	28,183
1987	60,325	2,355	6,251	9,586	16,457	4,067	9,966	3,370	8,273	28,669
1988	61,479	2,517	5,900	9,829	17,012	4,177	10,198	3,398	8,448	29,534
1989	62,533	2,742	5,739	9,852	17,597	4,491	10,147	3,657	8,308	29,875
1990	64,169	2,946	5,895	10,164	17,879	4,543	10,505	3,824	8,413	29,249
U.S. citizens										
1975 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1980	24,426	759	2,631	4,805	5,530	2,206	3,150	1,136	4,209	20,259
1981	25,615	882	2,953	5,211	5,542	1,931	3,328	1,330	4,438	19,994
1982	27,877	944	3,417	5,492	6,268	2,060	3,684	1,280	4,732	18,751
1983	30,445	1,078	3,910	5,654	7,191	1,834	4,247	1,520	5,011	18,218
1984	31,360	1,104	3,878	5,796	7,679	1,867	4,509	1,659	4,868	18,512
1985	31,311	1,249	3,616	5,401	7,943	1,803	4,778	1,794	4,727	18,707
1986	32,610	1,332	3,677	5,393	8,372	1,980	5,126	1,824	4,906	18,582
1987	32,947	1,547	3,651	5,051	8,643	2,094	5,409	1,786	4,766	18,995
1988	32,679	1,491	3,180	5,099	8,960	2,174	5,195	1,764	4,816	19,570
1989	33,179	1,743	2,862	5,038	9,360	2,338	5,465	1,851	4,522	20,704
1990	33,841	1,884	2,841	5,397	9,335	2,305	5,617	1,992	4,470	21,826
Non-U.S. citizens										
1975 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1978 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1979 1/.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1980	17,503	565	2,161	3,295	4,163	1,370	2,580	1,100	2,269	1,980
1981	19,200	598	2,358	3,595	4,614	1,501	3,009	1,106	2,419	2,080
1982	20,815	575	2,577	3,940	5,009	1,530	3,444	1,173	2,567	2,155
1983	22,239	747	2,487	4,257	5,663	1,308	3,931	1,166	2,680	2,240
1984	22,603	736	2,380	4,423	5,782	1,409	4,002	1,204	2,667	2,196
1985	23,496	731	2,429	4,449	6,415	1,552	3,905	1,276	2,739	2,442
1986	26,403	806	2,416	4,681	7,460	1,735	4,473	1,493	2,339	2,601
1987	27,378	808	2,600	4,535	7,814	1,973	4,557	1,584	2,507	2,674
1988	28,800	1,026	2,720	4,730	8,052	2,003	5,003	1,634	2,632	2,964
1989	29,354	999	2,877	4,814	8,237	2,153	4,682	1,806	2,786	3,171
1990	30,328	1,062	3,054	4,767	8,544	2,238	4,888	1,832	3,943	3,423

1/ Data on citizenship distribution were not requested before 1980.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-5. Part-time science and engineering graduate students in doctorate-granting institutions by sex and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
		Total enrollment								
1975	85,141	50,698	3,456	2,010	4,521	3,201	1,560	6,552	7,559	21,839
1976	85,403	50,683	3,447	2,110	4,637	3,114	1,561	6,736	6,983	22,095
1977	90,822	51,825	3,312	2,338	4,229	3,571	1,651	7,531	7,240	21,953
1978	90,530	51,707	3,219	2,246	3,898	3,903	1,829	7,160	7,191	22,261
1979	95,962	55,436	3,198	2,438	4,113	4,550	1,923	7,067	7,516	24,631
1980	99,829	57,771	3,135	2,473	4,262	5,450	1,988	6,907	7,793	25,763
1981	102,774	57,667	3,181	2,572	4,342	6,677	1,717	6,558	7,638	24,982
1982	106,220	60,344	3,172	2,886	4,592	7,672	2,077	6,668	8,087	25,190
1983	106,999	57,574	3,245	2,784	4,569	9,030	2,118	6,375	7,861	21,592
1984	108,971	57,828	3,263	3,020	4,454	10,258	2,004	6,275	8,433	20,121
1985	114,417	60,573	3,374	3,346	4,108	11,449	1,959	6,794	9,156	20,377
1986	116,676	59,973	3,474	3,127	3,936	11,815	1,823	6,760	8,661	20,387
1987	117,545	61,056	3,315	3,271	3,847	12,444	1,728	6,463	8,925	21,063
1988	117,764	61,855	3,434	3,034	4,083	13,041	1,714	6,436	9,139	20,974
1989	117,077	61,159	3,378	3,962	3,881	12,450	1,817	6,371	8,914	21,386
1990	123,143	63,916	3,659	3,018	4,095	12,966	1,893	6,922	9,755	21,608
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	65,553	35,621	2,721	1,984	2,947	2,937	1,393	4,655	3,953	15,031
1978	62,869	34,305	2,587	1,846	2,679	2,143	1,496	4,249	3,608	14,697
1979	64,268	35,464	2,509	1,929	2,679	2,580	1,518	4,015	3,344	15,693
1980	65,434	36,467	2,450	1,919	2,940	2,212	1,563	3,819	3,278	15,986
1981	65,543	35,292	2,440	1,925	2,961	2,907	1,574	3,655	3,365	14,955
1982	65,925	36,327	2,455	2,150	3,032	3,506	1,589	3,688	3,302	14,835
1983	65,942	36,016	2,499	2,026	3,005	3,259	1,580	3,568	3,159	12,392
1984	66,868	36,359	2,482	2,200	2,957	3,331	1,524	3,096	3,351	11,379
1985	69,947	35,447	2,573	2,447	2,632	3,187	1,443	3,351	3,365	11,400
1986	70,836	35,289	2,665	2,295	2,499	3,739	1,325	3,246	3,152	11,268
1987	71,072	35,660	2,521	2,378	2,395	3,080	1,234	3,252	3,192	11,608
1988	69,845	35,918	2,608	2,193	2,607	3,439	1,206	3,039	3,349	11,477
1989	68,165	35,084	2,536	2,084	2,494	3,054	1,280	3,005	3,206	11,525
1990	70,804	36,152	2,717	2,079	2,647	3,626	1,302	3,222	3,082	11,477
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	25,269	16,204	591	354	1,282	634	258	2,876	3,287	6,922
1978	27,722	17,364	632	400	1,219	760	333	2,911	3,590	7,519
1979	31,694	19,972	689	509	1,327	970	405	3,052	4,082	8,938
1980	34,395	21,304	685	554	1,322	1,238	425	3,088	4,215	9,777
1981	37,231	22,375	741	647	1,381	1,770	343	3,193	4,273	10,027
1982	40,295	24,017	717	736	1,560	2,166	488	3,300	4,695	10,355
1983	41,057	23,558	746	758	1,564	2,771	538	3,279	4,702	9,200
1984	42,103	23,469	781	820	1,497	2,927	480	3,154	5,068	8,742
1985	44,470	25,126	801	899	1,476	3,262	516	3,443	5,742	8,987
1986	45,840	24,684	809	832	1,437	3,076	498	3,414	5,509	9,109
1987	46,473	25,396	794	893	1,452	3,364	494	3,211	5,733	9,455
1988	47,919	25,937	826	841	1,476	3,602	508	3,397	5,790	9,497
1989	48,912	26,075	842	878	1,387	3,396	537	3,466	5,708	9,861
1990	52,339	27,764	942	939	1,448	3,340	591	3,700	6,673	10,131

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-5. Part-time science and engineering graduate students in doctorate-granting institutions by sex and field: 1975-90

Page 2 of 2

Page 2 of 2

Year	Engineering									Health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	28,018	411	1,518	4,728	7,589	7,071	3,288	533	2,880	6,425
1976	27,152	296	1,478	4,445	7,317	6,691	3,061	480	2,384	7,568
1977	28,241	318	1,306	4,584	8,185	6,606	3,401	550	3,291	10,756
1978	27,194	315	1,385	4,643	8,144	5,827	3,254	526	3,300	11,629
1979	28,066	325	1,357	4,583	8,024	6,488	3,256	536	3,497	12,460
1980	27,946	406	1,491	4,416	8,433	6,491	3,225	603	3,681	14,112
1981	29,551	396	1,471	4,488	8,744	7,756	3,776	611	4,509	15,556
1982	29,488	414	1,515	4,101	9,305	7,418	3,639	577	4,519	16,388
1983	32,625	551	1,679	4,303	10,691	8,652	4,911	652	4,966	16,800
1984	33,137	573	1,670	4,218	11,138	9,664	4,555	709	4,410	18,006
1985	35,415	646	1,722	4,271	12,017	9,729	4,763	748	4,419	18,429
1986	36,759	753	1,724	4,398	12,108	9,753	4,008	722	4,893	19,944
1987	36,644	731	1,559	4,245	12,571	9,620	4,124	817	4,007	19,945
1988	35,004	764	1,363	4,267	12,766	9,642	4,852	766	5,804	20,705
1989	34,345	750	1,273	4,284	12,616	9,833	4,790	767	5,032	21,573
1990	36,084	969	1,379	4,609	12,574	9,745	5,006	860	4,942	23,143
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	26,996	312	1,211	4,362	7,876	6,276	3,281	517	3,161	2,936
1978	25,672	306	1,253	4,194	7,769	5,429	3,110	482	3,129	2,892
1979	26,031	312	1,188	4,262	7,574	5,885	3,076	475	3,259	2,773
1980	25,761	386	1,281	4,045	8,030	4,880	3,235	536	3,368	2,206
1981	26,861	380	1,234	4,099	8,237	4,983	3,320	519	4,089	3,390
1982	26,414	377	1,299	3,645	8,644	4,630	3,381	474	3,964	3,184
1983	28,895	507	1,447	3,992	9,700	4,769	3,617	537	3,326	3,031
1984	29,376	526	1,439	3,991	10,228	4,703	4,099	603	3,787	3,133
1985	31,196	605	1,470	3,995	10,938	5,635	4,167	608	3,778	3,304
1986	31,982	700	1,273	3,811	10,841	6,053	4,550	593	4,161	3,565
1987	31,719	673	1,252	3,662	11,244	6,173	4,659	681	3,375	3,693
1988	30,287	701	1,055	3,638	11,370	5,320	4,362	613	3,228	3,640
1989	29,555	689	1,044	3,622	11,203	4,666	4,337	621	3,373	3,526
1990	30,936	878	1,139	3,890	11,118	4,624	4,505	693	4,089	3,716
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	1,245	6	95	222	309	330	120	33	130	7,820
1978	1,340	9	132	267	375	398	144	44	171	8,818
1979	2,035	13	169	321	430	603	180	61	238	9,687
1980	2,185	20	210	371	403	611	190	67	313	10,906
1981	2,690	16	237	389	507	773	256	92	420	12,166
1982	2,074	37	216	456	661	788	298	103	555	13,204
1983	3,730	44	232	511	991	883	294	115	660	13,769
1984	3,761	47	231	527	910	961	356	106	623	14,873
1985	4,219	41	252	576	1,079	1,094	396	140	641	15,125
1986	4,777	53	251	587	1,267	1,300	458	129	732	16,379
1987	4,925	58	277	583	1,327	1,447	465	136	632	16,152
1988	4,917	63	288	629	1,396	1,322	490	153	576	17,065
1989	4,790	61	229	662	1,413	1,167	453	146	659	18,047
1990	5,148	91	240	719	1,456	1,121	501	167	853	19,427

1/ Distribution by sex data were not requested in 1978; totals represent estimates based on 1977 and 1979 data.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-6. Science and engineering graduate students in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	336,080	342,956	346,264	355,875	366,927	372,101	377,360	384,014	398,405
Total, science/engineering fields	298,786	305,698	307,550	316,297	325,800	330,587	334,121	338,566	350,013
Engineering, total	78,180	85,309	87,100	90,222	95,772	96,969	96,683	96,878	100,253
Aerospace	1,933	2,376	2,413	2,656	2,891	3,086	3,281	3,492	3,915
Agricultural	875	969	952	941	1,054	1,063	1,039	1,031	939
Biomedical	1,064	1,185	1,288	1,317	1,481	1,613	1,676	1,853	2,067
Chemical	6,929	7,352	7,196	7,015	6,891	6,990	6,532	6,361	6,618
Civil	13,533	14,414	14,737	14,421	14,472	13,831	14,096	14,136	14,773
Electrical	20,582	23,545	24,599	26,375	27,940	29,028	29,778	30,213	30,453
Engineering science	1,840	1,981	1,900	1,838	2,128	2,127	2,189	2,058	2,529
Industrial	9,008	8,794	8,940	10,084	11,068	11,687	10,819	10,324	10,288
Mechanical	10,767	12,089	12,966	13,246	14,607	15,090	15,050	14,937	15,511
Metallurgical/materials	3,030	3,338	3,572	3,818	4,039	4,187	4,164	4,424	4,684
Mining	4,424	4,498	4,477	4,63	4,87	4,84	4,450	388	409
Nuclear	1,301	1,203	1,234	1,220	1,265	1,279	1,303	1,323	1,278
Petroleum	580	724	732	752	726	790	711	651	656
Engineering, n.e.c.	6,314	6,841	6,092	6,106	6,723	5,714	5,595	5,687	6,133
Sciences, total	220,606	220,389	220,450	226,075	230,028	233,618	237,438	241,688	249,760
Physical sciences	26,511	27,747	28,410	29,312	30,543	30,967	31,212	31,807	32,504
Astronomy	632	618	639	671	689	722	731	789	811
Chemistry	15,793	16,548	16,599	17,152	17,602	17,667	17,482	17,713	18,059
Physics	10,015	10,512	10,985	11,297	12,014	12,330	12,787	13,116	13,392
Physical sciences, n.e.c.	71	69	187	192	238	248	212	189	242
Earth, atmospheric, and ocean sciences	13,804	14,281	14,286	14,217	13,989	13,368	12,871	12,677	12,866
Atmospheric sciences	877	884	895	951	956	948	929	900	925
Geosciences	9,048	9,688	9,716	9,533	9,176	8,385	7,904	7,576	7,199
Oceanography	1,934	1,907	1,929	1,984	2,027	2,022	1,926	2,070	2,117
Earth, atmos., and ocean sci., n.e.c.	1,945	1,802	1,746	1,749	1,830	2,013	2,112	2,131	2,625
Mathematical sciences	14,770	14,885	15,067	15,268	15,663	16,192	16,892	16,905	17,297
Computer sciences	15,583	18,306	20,366	23,823	25,204	26,083	26,742	26,520	27,667
Agricultural sciences	11,596	11,538	11,327	10,680	10,675	10,339	10,302	10,355	10,445
Biological sciences	41,916	41,609	41,963	42,490	43,369	43,699	44,695	45,814	47,054
Anatomy	1,074	1,037	1,029	993	973	1,016	1,056	1,078	1,011
Biochemistry	4,090	4,194	4,460	4,657	4,876	4,803	4,826	5,118	5,119
Biology	9,888	9,551	9,536	9,551	9,768	9,624	9,792	10,071	10,285
Biometry/epidemiology	1,166	1,156	1,004	1,360	1,441	1,617	1,743	1,789	1,666
Biophysics	440	450	433	307	347	351	592	555	642
Botany	3,602	3,405	3,371	3,229	3,242	3,095	3,039	2,963	2,833
Cell biology	1,143	1,182	1,256	1,229	1,716	1,964	2,078	2,234	2,592
Ecology	1,018	1,034	1,034	978	956	899	963	1,037	1,083
Entomology/parasitology	1,540	1,475	1,438	1,342	1,306	1,244	1,240	1,181	1,194
Genetics	940	986	1,012	1,075	1,219	1,273	1,247	1,321	1,364
Microbiology	3,992	4,137	4,229	4,342	4,280	4,362	4,708	4,753	4,812
Nutrition	4,124	4,093	4,023	4,005	3,987	3,976	3,927	3,917	3,951
Pathology	1,413	1,419	1,424	1,308	1,333	1,386	1,343	1,362	1,357
Pharmacology	2,073	2,134	2,117	2,179	2,157	2,153	2,209	2,351	2,438
Physiology	5,058	1,994	2,160	2,211	2,220	2,213	2,220	2,206	2,276
Zoology	4,471	2,390	2,266	2,103	2,065	2,097	2,022	2,075	2,097
Biosciences, n.e.c.	884	1,044	1,171	1,209	1,283	1,386	1,590	1,703	2,034
Psychology	29,981	30,011	30,033	30,490	30,656	31,554	32,515	33,575	34,685
Social sciences	66,445	62,012	58,998	59,795	59,929	61,416	62,209	64,035	67,242
Agricultural economics	2,223	2,237	2,212	2,200	2,184	2,152	2,209	2,227	2,232
Anthropology	5,688	5,399	5,371	5,598	5,582	5,598	5,700	5,916	6,244
Economics (except agricultural)	12,652	12,015	11,512	11,591	11,238	11,239	11,319	11,429	11,668
Geography	2,718	2,640	2,604	2,542	2,591	2,702	2,638	2,849	2,938
History and philosophy of science	256	253	274	272	266	294	288	342	370
Linguistics	2,674	2,813	2,920	2,804	2,819	2,920	2,881	2,919	3,049
Political science	23,835	22,477	20,340	21,435	21,809	22,438	22,403	23,146	24,414
Sociology	6,670	6,376	6,122	6,002	5,901	6,330	6,439	6,664	6,940
Sociology/anthropology	1,042	1,014	960	906	904	882	912	1,125	1,125
Social sciences, n.e.c.	8,687	6,788	6,683	6,845	6,635	6,861	7,420	7,597	8,262
Total, health fields	37,294	37,258	38,714	39,578	41,127	41,514	43,239	45,448	48,392
Dentistry	836	776	850	835	938	1,057	1,085	1,007	969
Neurology	190	247	303	324	373	472	586	697	790
Nursing	14,361	14,986	15,913	15,732	16,194	16,033	16,292	16,912	18,242
Pharmaceutical sciences	2,508	2,554	2,428	2,459	2,593	2,525	2,531	2,828	2,961
Preventive medicine/community health	6,676	6,492	6,657	7,106	7,039	7,359	7,529	7,541	8,073
Speech pathology/audiology	6,727	5,866	5,804	6,014	6,032	5,532	5,927	6,163	6,441
Veterinary sciences	446	440	531	610	607	711	735	782	881
Clinical medicine, n.e.c.	1,312	1,300	1,308	1,498	1,448	1,542	1,622	1,603	1,673
Health related, n.e.c.	4,238	4,597	4,920	5,000	5,903	6,283	6,932	7,915	8,362

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-7. Science and engineering graduate students in doctorate-granting institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	336,080	342,956	346,264	355,875	366,927	372,101	377,360	384,014	398,405
New England	25,676	26,551	26,560	27,437	28,204	28,142	28,986	28,439	29,848
Connecticut	3,663	3,772	3,648	3,930	4,121	4,317	4,341	4,336	4,565
Maine	416	509	580	523	538	614	649	667	689
Massachusetts	18,441	18,991	19,034	19,654	20,044	19,650	20,355	19,769	20,868
New Hampshire	782	794	803	829	878	882	973	986	1,022
Rhode Island	1,739	1,851	1,834	1,883	1,993	2,074	2,018	2,063	2,079
Vermont	635	634	661	618	630	605	650	618	625
Middle Atlantic	62,825	64,314	65,496	66,502	68,397	68,087	68,574	68,645	70,150
New Jersey	9,069	9,153	10,021	10,474	10,395	10,871	11,198	10,911	10,674
New York	37,549	38,333	38,710	38,984	40,447	39,783	39,748	39,739	40,764
Pennsylvania	16,207	16,828	16,765	17,044	17,555	17,433	17,628	17,995	18,712
East North Central	60,013	62,050	61,265	62,088	64,737	67,322	68,811	70,793	73,564
Illinois	15,828	16,344	16,547	17,263	17,840	18,664	18,982	19,475	20,109
Indiana	7,892	8,143	7,439	6,913	7,670	8,037	8,102	8,954	9,355
Michigan	12,151	12,547	12,643	12,806	13,519	13,813	13,836	14,634	15,204
Ohio	16,638	17,392	16,921	17,484	18,017	18,940	19,927	19,552	20,497
Wisconsin	7,504	7,624	7,715	7,622	7,691	7,668	7,964	8,178	8,399
West North Central	23,027	23,785	23,666	24,224	24,752	24,995	25,460	25,834	26,844
Iowa	4,367	4,627	4,517	4,651	4,810	4,818	5,005	4,971	5,303
Kansas	4,141	4,427	4,367	4,225	4,230	4,387	4,501	4,605	4,761
Minnesota	5,081	5,127	5,255	5,641	5,570	5,373	5,534	5,681	5,708
Missouri	5,643	5,655	5,680	5,811	6,224	6,208	6,296	6,386	6,729
Nebraska	2,133	2,214	2,165	2,139	2,130	2,238	2,326	2,329	2,462
North Dakota	930	946	906	949	970	915	947	967	995
South Dakota	732	789	776	808	818	856	851	915	995
South Atlantic	50,203	47,984	49,874	52,224	54,872	56,745	58,212	59,695	62,803
Delaware	1,173	1,180	1,112	1,150	1,189	1,303	1,198	1,239	1,357
District of Columbia	8,233	7,703	8,120	8,531	9,110	9,204	8,726	8,219	8,409
Florida	10,555	8,953	9,067	9,961	10,019	10,844	11,877	12,628	13,142
Georgia	2,659	2,683	2,990	6,005	6,386	6,726	6,749	6,902	7,375
Maryland	3,472	3,880	2,961	6,185	6,525	6,503	7,144	7,498	7,770
North Carolina	6,928	7,152	7,238	7,234	7,720	7,799	7,977	8,411	8,611
South Carolina	2,769	2,864	2,925	3,251	3,313	3,192	3,417	3,642	3,842
Virginia	6,770	6,901	7,508	8,612	9,097	9,567	9,761	9,969	10,838
West Virginia	2,644	1,668	1,653	1,615	1,575	1,486	1,588	1,612	1,759
East South Central	12,110	12,401	12,941	13,373	13,938	14,349	15,101	16,158	16,646
Alabama	2,979	3,042	3,382	3,759	4,089	4,472	4,710	5,127	5,598
Kentucky	2,753	2,774	2,837	2,745	2,751	2,894	3,057	3,182	3,170
Mississippi	1,882	2,001	2,200	2,172	2,250	2,255	2,389	2,501	2,429
Tennessee	4,496	4,584	4,522	4,697	4,848	4,728	4,945	5,348	5,449
West South Central	29,483	31,930	32,522	32,549	33,157	32,800	33,058	34,682	36,530
Arkansas	1,224	1,172	1,182	1,181	1,161	1,180	1,053	1,029	1,108
Louisiana	4,022	4,344	4,564	4,553	4,391	4,344	4,241	4,348	4,622
Oklahoma	3,507	3,849	3,813	3,924	4,027	4,291	4,090	4,250	4,453
Texas	20,730	22,565	22,963	22,891	23,578	22,985	23,674	25,055	26,347
Mountain	22,093	22,282	22,125	23,129	23,934	24,648	24,734	25,069	26,474
Arizona	6,140	6,147	6,212	6,743	6,834	6,938	7,254	7,443	7,552
Colorado	6,690	6,411	6,150	6,468	7,108	7,440	7,361	7,313	8,067
Idaho	937	1,004	1,008	1,041	1,035	1,173	1,225	1,405	1,560
Montana	976	1,019	1,030	980	911	891	941	971	993
Nevada	413	532	561	547	505	609	646	749	872
New Mexico	2,372	2,551	2,464	2,551	2,647	2,815	2,760	2,624	2,789
Utah	3,763	3,783	3,921	3,986	4,154	4,043	3,850	3,762	3,790
Wyoming	802	835	779	813	740	739	697	802	851
Pacific	48,650	49,399	49,379	51,797	52,416	52,715	52,127	52,341	53,007
Alaska	355	424	352	381	399	387	404	444	487
California	38,242	38,829	38,515	40,775	41,255	41,556	40,783	41,128	41,150
Hawaii	1,288	1,782	1,702	1,705	1,820	1,822	1,822	1,857	1,984
Oregon	2,081	3,093	3,234	3,262	3,429	3,454	3,580	3,549	3,780
Washington	5,244	5,271	5,576	5,674	5,513	5,496	5,531	5,363	5,606
Outlying areas	2,000	2,260	2,436	2,552	2,520	2,298	2,297	2,358	2,539

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-8. Male science and engineering graduate students in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	221,035	225,804	227,429	232,937	239,423	242,141	241,787	242,949	248,933
Total, science/engineering fields	211,356	216,502	218,016	223,170	229,447	231,396	231,139	231,961	237,409
Engineering, total	69,867	76,037	77,346	79,789	84,073	84,919	84,316	84,121	86,598
Aerospace	1,823	2,252	2,280	2,459	2,690	2,899	3,053	3,251	3,626
Agricultural	818	896	872	863	970	967	953	944	838
Biomedical	854	932	1,013	1,034	1,144	1,233	1,254	1,390	1,329
Chemical	6,052	6,371	6,252	6,037	5,871	5,857	5,476	5,352	5,200
Civil	11,745	12,517	12,676	12,471	12,596	11,827	11,909	11,814	12,249
Electrical	19,142	21,637	22,583	24,142	25,250	26,220	26,773	27,061	27,100
Engineering science	1,480	1,323	1,374	1,374	1,875	1,876	1,948	1,816	2,181
Mechanical	10,085	11,325	12,062	13,304	13,533	13,922	13,748	13,649	14,180
Metalurgical/materials	2,622	2,903	3,114	3,246	3,403	3,502	3,451	3,659	3,869
Mining	386	456	437	436	453	445	410	352	361
Nuclear	1,215	1,119	1,146	1,113	1,142	1,151	1,176	1,169	1,123
Petroleum	538	652	672	691	680	741	666	623	624
Engineering, n.e.c.	5,517	5,918	5,216	5,177	5,711	4,798	4,727	4,733	5,123
Sciences, total	141,489	140,465	140,670	143,381	145,374	146,477	146,823	147,840	150,811
Physical sciences	21,589	22,366	22,736	23,318	24,199	24,374	24,254	24,520	24,924
Astronomy	531	526	541	563	568	602	591	649	646
Chemistry	12,024	12,441	12,340	12,765	12,975	12,920	12,432	12,433	12,584
Physics	8,987	9,356	9,755	9,867	10,514	10,717	11,111	11,331	11,556
Physical sciences, n.e.c.	47	43	100	123	142	135	120	107	138
Earth, atmospheric, and ocean sciences	10,378	10,671	10,740	10,601	10,344	9,878	9,390	9,137	9,117
Atmospheric sciences	754	756	759	796	777	780	766	725	740
Geosciences	6,866	7,309	7,377	7,213	6,960	6,364	5,971	5,736	5,408
Oceanography	1,415	1,390	1,387	1,409	1,396	1,426	1,323	1,401	1,427
Earth, atmos., and ocean sci., n.e.c.	1,343	1,216	1,217	1,183	1,211	1,208	1,330	1,275	1,542
Mathematical sciences	10,658	10,655	10,833	10,823	11,072	11,433	11,963	11,817	12,041
Computer sciences	11,448	13,325	15,065	17,934	19,272	19,867	20,246	20,311	21,370
Agricultural sciences	8,726	8,619	8,418	7,909	7,908	7,597	7,457	7,458	7,359
Biological sciences	24,719	24,282	24,406	24,480	24,718	24,840	25,005	25,247	25,678
Anatomy	669	632	605	569	560	578	598	598	554
Biochemistry	2,607	2,637	2,801	2,929	3,000	2,923	2,941	3,084	3,005
Biology	5,960	5,591	5,588	5,516	5,599	5,622	5,570	5,628	5,736
Biometry/epidemiology	261	247	472	640	667	762	786	758	904
Biophysics	330	338	326	331	410	450	443	493	478
Botany	2,303	2,172	2,139	2,076	2,083	1,911	1,884	1,837	1,722
Cell biology	726	643	789	911	1,044	1,199	1,233	1,290	1,460
Ecology	663	673	714	638	602	555	597	632	656
Entomology/parasitology	1,158	1,090	1,066	992	948	906	881	817	832
Genetics	457	509	545	595	663	671	659	670	680
Microbiology	2,250	2,335	2,373	2,450	2,392	2,418	2,593	2,549	2,527
Nutrition	1,331	1,298	1,278	1,304	1,265	1,299	1,201	1,190	1,218
Pathology	832	855	846	763	792	804	796	794	781
Pharmacology	1,352	1,372	1,321	1,345	1,315	1,274	1,327	1,346	1,378
Physiology	1,367	1,207	1,388	1,375	1,366	1,378	1,357	1,313	1,327
Zoology	1,630	1,588	1,464	1,355	1,296	1,308	1,240	1,290	1,267
Biosciences, n.e.c.	523	604	691	691	716	782	899	955	1,153
Psychology	13,225	12,999	12,648	12,293	12,005	12,056	12,049	12,173	11,963
Social sciences	40,746	37,548	35,824	36,023	35,856	36,432	36,459	37,177	38,359
Agricultural economics	1,766	1,760	1,735	1,703	1,689	1,652	1,669	1,652	1,641
Anthropology	2,559	2,337	2,358	2,389	2,355	2,392	2,415	2,448	2,587
Economics (except agricultural)	9,482	9,150	8,769	8,614	8,476	8,453	8,425	8,411	8,487
Geography	1,890	1,764	1,776	1,717	1,770	1,802	1,786	1,897	1,958
History and philosophy of science	167	161	187	180	169	198	184	217	236
Linguistics	1,156	1,165	1,196	1,152	1,194	1,233	1,212	1,257	1,327
Political science	14,984	13,926	12,816	13,202	13,353	13,668	13,402	13,681	14,154
Sociology	3,145	3,046	2,856	2,836	2,709	2,888	2,967	3,081	3,129
Sociology/anthropology	502	505	474	443	436	429	404	415	469
Social sciences, n.e.c.	5,095	3,734	3,657	3,787	3,705	3,717	3,995	4,118	4,391
Total, health fields	9,679	9,302	9,413	9,767	9,976	10,745	10,648	10,988	11,524
Dentistry	676	607	664	648	731	776	791	717	684
Neurology	134	175	194	201	232	295	350	417	467
Nursing	625	614	643	640	606	928	688	748	791
Pharmaceutical sciences	1,744	1,720	1,577	1,599	1,659	1,543	1,501	1,670	1,788
Preventive medicine/community health ...	2,963	2,765	2,737	2,933	3,009	3,339	3,141	2,874	3,165
Speech pathology/audiology	1,021	879	857	931	780	622	709	619	630
Veterinary sciences	281	277	326	379	374	436	439	455	498
Clinical medicine, n.e.c.	810	744	711	741	737	811	836	860	911
Health related, n.e.c.	1,425	1,521	1,704	1,695	1,848	1,995	2,193	2,628	2,610

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-9. Male science and engineering graduate students in doctorate-granting institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	221,035	225,804	227,429	232,937	239,423	242,141	241,787	242,949	248,933
New England	17,369	17,994	18,012	18,208	18,497	18,465	18,847	18,212	18,903
Connecticut	2,253	2,372	2,285	2,348	2,413	2,529	2,533	2,475	2,628
Maine	278	339	386	336	353	416	433	446	450
Massachusetts	12,791	13,143	13,176	13,371	13,504	13,757	13,557	12,984	13,483
New Hampshire	539	536	530	526	557	556	557	636	651
Rhode Island	1,116	1,220	1,194	1,241	1,318	1,358	1,324	1,304	1,321
Vermont	392	384	441	386	352	331	377	367	370
Middle Atlantic	39,549	40,310	41,018	41,723	43,342	42,858	42,659	42,593	42,956
New Jersey	6,090	6,275	7,087	7,355	7,263	7,663	7,862	7,620	7,216
New York	22,269	22,520	22,574	22,881	24,259	23,682	23,427	23,270	23,681
Pennsylvania	11,190	11,515	11,357	11,487	11,820	11,513	11,370	11,703	12,059
East North Central	39,809	41,058	40,560	41,217	42,197	43,915	44,001	44,678	45,945
Illinois	10,310	10,826	11,012	11,357	11,430	11,977	12,066	12,118	12,560
Indiana	5,381	5,434	4,695	4,775	4,973	5,241	5,265	5,668	5,748
Michigan	8,258	8,533	8,616	8,631	9,097	9,425	9,233	9,668	9,929
Ohio	10,928	11,239	11,152	11,406	11,666	12,214	12,372	12,060	12,457
Wisconsin	4,952	5,026	5,085	5,048	5,031	5,058	5,065	5,164	5,251
West North Central	15,458	15,885	15,669	15,896	16,306	16,356	16,690	16,713	16,973
Iowa	3,074	3,263	3,137	3,185	3,267	3,246	3,376	3,386	3,506
Kansas	3,540	3,722	3,733	3,606	3,600	3,730	3,790	3,810	3,800
Minnesota	2,268	2,229	2,285	2,338	2,368	2,516	2,594	2,582	2,593
Missouri	1,897	1,869	1,860	1,897	1,887	1,835	1,867	1,803	1,826
Nebraska	1,490	1,513	1,455	1,360	1,378	1,417	1,343	1,497	1,550
North Dakota	682	718	655	660	675	644	647	612	612
South Dakota	507	571	544	550	531	571	573	589	616
South Atlantic	32,236	31,012	32,206	33,367	35,258	35,978	36,038	36,462	37,917
Delaware	726	755	709	738	770	855	795	823	900
District of Columbia	5,413	5,141	5,441	5,604	5,883	5,708	5,200	4,712	4,789
Florida	7,316	5,887	5,951	6,419	6,552	6,846	7,248	7,448	7,879
Georgia	3,805	3,900	4,224	4,025	4,272	4,580	4,642	4,246	4,657
Maryland	3,186	3,419	3,424	3,612	3,794	3,886	4,220	4,485	4,573
North Carolina	4,226	4,370	4,465	4,359	4,751	4,682	4,812	4,939	5,059
South Carolina	1,902	1,920	1,997	1,909	2,189	2,249	2,117	2,059	2,302
Virginia	4,347	4,514	4,922	5,687	6,007	6,312	6,195	6,519	6,777
West Virginia	1,315	1,106	1,073	1,014	1,040	860	909	903	981
East South Central	7,681	8,014	8,322	8,513	8,984	9,127	9,724	10,109	10,387
Alabama	1,797	1,891	2,098	2,357	2,596	2,752	2,955	3,158	3,458
Kentucky	1,750	1,782	1,787	1,764	1,790	1,834	1,981	1,982	1,951
Mississippi	1,245	1,370	1,506	1,447	1,506	1,512	1,573	1,606	1,617
Tennessee	2,889	2,971	2,931	2,945	3,092	3,029	3,215	3,363	3,361
West South Central	19,398	21,098	21,456	21,566	21,958	22,261	21,576	22,502	23,619
Arkansas	837	826	834	806	797	804	716	695	726
Louisiana	2,700	2,968	3,115	3,109	3,011	3,030	2,874	2,972	3,138
Oklahoma	2,503	2,718	2,657	2,770	2,878	2,995	2,749	2,786	2,954
Texas	13,358	14,586	14,850	14,881	15,272	15,432	15,237	16,049	16,801
Mountain	15,267	15,535	15,171	15,886	16,256	16,719	16,661	16,795	17,213
Arizona	4,190	4,253	4,213	4,547	4,611	4,781	4,841	4,920	4,857
Colorado	4,396	4,195	3,948	4,088	4,521	4,580	4,636	4,668	4,977
Idaho	725	773	783	781	775	877	894	993	1,062
Montana	660	690	678	655	580	606	662	663	666
Nevada	287	362	404	416	351	420	448	507	623
New Mexico	1,683	1,857	1,742	1,798	1,846	2,004	1,898	1,838	1,926
Utah	2,716	2,734	2,819	2,901	2,979	2,881	2,762	2,667	2,594
Wyoming	610	671	584	700	593	570	522	539	528
Pacific	33,398	34,086	33,929	35,460	35,567	35,467	34,721	34,027	34,078
Alaska	260	300	258	275	293	274	278	302	321
California	26,450	26,944	26,577	28,091	28,109	28,089	27,339	26,798	26,556
Hawaii	1,085	1,049	1,013	984	1,102	1,087	1,058	1,092	1,135
Oregon	2,164	2,266	2,316	2,318	2,475	2,493	2,546	2,481	2,640
Washington	3,439	3,527	3,765	3,792	3,588	3,524	3,500	3,354	3,426
Outlying areas	870	812	1,086	1,101	1,058	995	870	858	942

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-10. Female science and engineering graduate students in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	115,045	117,152	118,835	122,938	127,504	129,960	135,573	141,065	149,472
Total, science/engineering fields	87,430	89,196	89,534	93,127	96,353	99,191	102,982	106,605	112,604
Engineering, total	8,313	9,272	9,754	10,433	11,699	12,050	12,367	12,757	13,655
Aerospace	110	124	133	167	201	223	229	241	289
Agricultural	57	73	82	78	84	96	86	87	101
Biomedical	210	253	275	283	337	380	422	463	538
Chemical	867	981	944	978	1,020	1,133	1,056	1,009	1,118
Civil	1,808	1,901	2,061	2,150	2,176	2,004	2,187	2,322	2,324
Electrical	1,458	1,908	2,016	2,233	2,680	2,808	3,005	3,152	3,353
Engineering science	222	241	251	196	253	251	243	242	348
Industrial	1,528	1,471	1,566	1,710	2,023	2,170	2,044	2,029	1,993
Mechanical	682	764	904	942	1,074	1,168	1,302	1,288	1,331
Metallurgical/materials	408	435	458	572	636	685	713	765	815
Mining	38	42	40	27	34	39	40	36	48
Nuclear	86	74	88	107	123	128	127	141	155
Petroleum	42	72	60	61	46	49	45	28	32
Engineering, n.e.c.	797	923	876	929	1,012	916	868	954	1,010
Sciences, total	79,117	79,924	79,780	82,694	84,654	87,141	90,615	93,848	98,949
Physical sciences	4,922	5,381	5,674	5,994	6,344	6,593	6,958	7,287	7,580
Astronomy	101	92	98	108	121	120	140	140	165
Chemistry	3,769	4,107	4,259	4,387	4,627	4,747	5,050	5,280	5,465
Physics	1,028	1,156	1,230	1,430	1,500	1,613	1,676	1,785	1,836
Physical sciences, n.e.c.	24	26	87	69	96	113	92	82	104
Earth, atmospheric, and ocean sciences	3,426	3,610	3,546	3,616	3,645	3,490	3,481	3,540	3,749
Atmospheric sciences	123	128	136	155	179	168	163	175	185
Geosciences	2,182	2,379	2,339	2,320	2,216	2,021	1,933	1,840	1,791
Oceanography	519	517	542	575	631	596	603	669	690
Earth, atmos., and ocean sci., n.e.c.	602	586	529	566	619	705	782	856	1,083
Mathematical sciences	4,112	4,230	4,234	4,445	4,591	4,759	4,929	5,088	5,256
Computer sciences	4,135	4,981	5,301	5,889	5,932	6,216	6,496	6,209	6,297
Agricultural sciences	2,870	2,919	2,909	2,771	2,767	2,742	2,845	2,897	3,086
Biological sciences	17,197	17,327	17,557	18,010	18,651	18,859	19,690	20,567	21,376
Anatomy	405	405	424	424	413	438	458	480	457
Biochemistry	1,483	1,557	1,659	1,728	1,876	1,880	1,985	2,034	2,114
Biology	3,928	3,960	3,948	4,035	4,169	4,002	4,222	4,443	4,549
Biometry/epidemiology	605	609	532	720	774	855	957	1,031	1,062
Biophysics	110	112	107	110	137	141	149	162	164
Botany	1,299	1,233	1,232	1,231	1,159	1,184	1,155	1,126	1,111
Cell biology	417	408	467	518	672	765	845	944	1,132
Ecology	355	319	320	340	354	344	366	405	427
Entomology/parasitology	382	385	372	350	358	338	359	364	362
Genetics	483	477	467	480	556	602	588	648	684
Microbiology	1,742	1,802	1,856	1,892	1,888	1,944	2,115	2,204	2,285
Nutrition	2,793	2,795	2,745	2,701	2,722	2,677	2,726	2,727	2,733
Pathology	581	564	578	545	541	582	547	568	576
Pharmacology	721	762	796	834	842	879	882	1,005	1,060
Physiology	691	697	772	836	854	835	863	893	949
Zoology	841	802	802	748	769	789	782	785	830
Biosciences, n.e.c.	361	440	480	518	567	604	691	748	881
Psychology	16,756	17,012	17,385	18,197	18,651	19,498	20,466	21,402	22,722
Social sciences	25,699	24,464	23,174	23,772	24,073	24,984	25,750	26,858	28,883
Agricultural economics	457	477	477	497	495	500	540	575	591
Anthropology	3,129	3,062	3,013	3,009	3,227	3,206	3,285	3,468	3,677
Economics (except agricultural)	3,170	2,865	2,743	2,777	2,762	2,786	2,894	3,018	3,181
Geography	828	876	828	825	821	900	852	952	980
History and philosophy of science	89	92	87	92	97	96	104	122	134
Linguistics	1,518	1,648	1,724	1,652	1,625	1,687	1,669	1,662	1,722
Political science	8,851	8,551	8,524	8,233	8,456	8,770	9,001	9,465	10,260
Sociology	3,225	3,130	3,266	3,166	3,192	3,442	3,472	3,583	3,811
Sociology/anthropology	540	509	486	463	468	453	508	531	656
Social sciences, n.e.c.	3,592	3,054	3,026	3,058	2,930	3,144	3,425	3,479	3,871
Total, health fields	27,615	27,956	29,301	29,811	31,151	30,769	32,591	34,460	36,868
Dentistry	160	189	186	187	207	281	294	290	285
Neurology	56	72	109	123	141	177	236	280	343
Nursing	13,736	14,372	15,270	15,092	15,588	15,105	15,604	16,164	17,451
Pharmaceutical sciences	764	834	851	860	934	982	1,030	1,158	1,173
Preventive medicine/community health	3,713	3,727	3,920	4,173	4,030	4,020	4,388	4,667	4,908
Speech pathology/audiology	5,706	4,987	4,947	5,083	5,252	4,910	5,218	5,544	5,811
Veterinary sciences	165	163	205	231	233	275	296	327	383
Clinical medicine, n.e.c.	502	556	597	757	711	731	786	743	762
Health related, n.e.c.	2,813	3,076	3,216	3,305	4,055	4,288	4,739	5,287	5,752

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-11. Female science and engineering graduate students in doctorate-granting institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	115,045	117,152	118,835	122,938	127,504	129,960	135,573	141,065	149,472
New England	8,307	8,557	8,548	9,229	9,707	9,677	10,139	10,227	10,945
Connecticut	1,410	1,400	1,363	1,582	1,708	1,788	1,808	1,861	1,937
Maine	138	170	194	187	185	198	216	221	239
Massachusetts	5,650	5,848	5,858	6,283	6,540	6,375	6,798	6,785	7,385
New Hampshire	243	258	273	303	321	326	350	350	371
Rhode Island	623	631	640	642	675	716	694	759	758
Vermont	243	250	220	232	278	274	273	251	255
Middle Atlantic	23,276	24,004	24,478	24,779	25,055	25,229	25,915	26,052	27,194
New Jersey	2,979	2,878	2,934	3,119	3,132	3,208	3,336	3,291	3,458
New York	15,280	15,813	16,136	16,103	16,188	16,101	16,321	16,469	17,083
Pennsylvania	5,017	5,313	5,408	5,557	5,735	5,920	6,258	6,292	6,653
East North Central	20,204	20,992	20,705	20,871	22,540	23,407	24,810	26,115	27,619
Illinois	5,518	5,518	5,535	5,906	6,410	6,687	6,916	7,357	7,549
Indiana	2,511	2,709	2,744	2,138	2,697	2,796	2,837	3,286	3,607
Michigan	3,913	4,014	4,027	4,175	4,422	4,388	4,603	4,966	5,275
Ohio	3,710	6,153	5,769	6,078	6,351	6,726	7,555	7,492	8,040
Wisconsin	2,552	2,598	2,630	2,574	2,660	2,810	2,899	3,014	3,148
West North Central	7,569	7,900	7,997	8,328	8,446	8,639	8,770	9,121	9,871
Iowa	1,293	1,364	1,380	1,466	1,543	1,572	1,629	1,585	1,797
Kansas	1,601	1,705	1,634	1,619	1,630	1,657	1,711	1,795	1,961
Minnesota	1,913	1,898	1,970	2,003	1,902	1,857	1,940	2,099	2,115
Missouri	1,746	1,786	1,820	1,914	2,037	2,176	2,129	2,183	2,433
Nebraska	643	701	710	779	752	821	783	832	912
North Dakota	248	228	251	289	295	271	300	301	274
South Dakota	225	218	232	258	287	285	278	326	379
South Atlantic	17,967	16,972	17,668	18,857	19,614	20,767	22,174	23,233	24,886
Delaware	447	425	403	412	419	448	403	416	457
District of Columbia	2,820	2,562	2,679	2,927	3,227	3,496	3,526	3,507	3,620
Florida	3,239	3,066	3,116	3,542	3,467	3,998	4,629	4,880	5,263
Georgia	1,854	1,783	3,066	1,980	3,114	3,146	2,207	2,356	2,718
Maryland	2,286	2,461	2,537	2,573	2,731	2,617	2,924	3,043	3,197
North Carolina	2,702	2,782	2,773	2,875	2,969	3,117	3,165	3,472	3,552
South Carolina	867	944	928	1,022	1,062	1,117	1,075	1,200	1,240
Virginia	2,423	2,387	2,586	2,925	3,090	3,255	3,566	3,650	4,061
West Virginia	1,329	562	580	601	535	626	679	709	778
East South Central	4,429	4,387	4,619	4,860	4,954	5,222	5,377	6,049	6,259
Alabama	1,182	1,151	1,284	1,402	1,493	1,720	1,755	1,969	2,140
Kentucky	1,003	992	1,050	981	961	1,060	1,076	1,200	1,219
Mississippi	637	631	694	725	744	743	816	895	812
Tennessee	1,607	1,613	1,591	1,752	1,756	1,699	1,730	1,985	2,088
West South Central	10,085	10,832	11,066	10,983	11,199	10,539	11,482	12,180	12,911
Arkansas	387	346	348	375	364	376	337	334	382
Louisiana	1,322	1,376	1,449	1,444	1,380	1,314	1,367	1,376	1,484
Oklahoma	1,004	1,131	1,156	1,154	1,149	1,296	1,341	1,464	1,499
Texas	7,372	7,979	8,113	8,010	8,306	7,553	8,437	9,006	9,546
Mountain	6,826	6,747	6,954	7,243	7,678	7,929	8,073	8,274	9,261
Arizona	1,950	1,894	1,999	2,196	2,223	2,157	2,413	2,523	2,695
Colorado	2,294	2,216	2,202	2,380	2,587	2,860	2,725	2,645	3,090
Idaho	212	231	225	260	260	296	331	412	498
Montana	316	329	352	325	331	285	279	308	347
Nevada	126	170	177	131	154	189	200	242	249
New Mexico	689	694	722	753	801	811	862	786	863
Utah	1,047	1,049	1,105	1,085	1,175	1,132	1,088	1,095	1,196
Wyoming	192	164	195	113	147	169	175	263	323
Pacific	15,252	15,313	15,450	16,337	16,849	17,248	17,406	18,314	18,929
Alaska	95	124	94	106	106	113	126	142	166
California	11,792	11,885	11,938	12,684	13,146	13,467	13,444	14,330	14,594
Hawaii	743	733	689	721	718	735	771	765	849
Oregon	817	827	918	944	954	961	1,034	1,068	1,140
Washington	1,805	1,744	1,811	1,882	1,925	1,972	2,031	2,009	2,180
Outlying areas	1,130	1,448	1,350	1,451	1,462	1,303	1,427	1,500	1,597

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-12. Science and engineering graduate students in public doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	225,505	232,292	236,165	240,907	249,903	253,889	258,636	266,119	278,715
Total, science/engineering fields	198,953	205,796	208,613	212,778	220,169	223,294	226,852	232,474	242,759
Engineering, total	49,253	53,842	55,002	57,456	61,654	64,147	64,929	66,766	70,461
Aerospace	1,332	1,716	1,774	1,939	2,155	2,328	2,429	2,611	3,029
Agricultural	821	916	900	888	1,003	1,015	994	981	891
Biomedical	614	662	724	737	903	1,004	1,035	1,159	1,231
Chemical	4,675	4,943	4,869	4,783	4,751	4,743	4,517	4,465	4,762
Civil	9,229	10,067	10,443	10,326	10,364	10,467	10,749	10,798	11,288
Electrical	11,570	12,942	13,589	15,225	16,596	17,816	18,277	18,917	19,574
Engineering science	1,248	1,363	1,220	1,129	1,287	1,287	1,285	1,245	1,667
Industrial	4,511	4,218	4,479	5,128	5,561	5,781	5,933	6,534	6,830
Mechanical	7,115	8,141	8,703	9,138	10,119	10,677	10,649	10,513	11,061
Metalurgical/materials	1,815	1,980	2,176	2,315	2,503	2,610	2,569	2,802	3,043
Mining	352	430	409	398	417	414	382	328	333
Nuclear	1,018	963	1,011	1,009	1,058	1,075	1,092	1,107	1,073
Petroleum	315	451	484	537	571	604	554	517	525
Engineering, n.e.c.	4,638	5,050	4,221	3,904	4,366	4,326	4,464	4,769	5,154
Sciences, total	149,700	151,954	153,611	155,322	158,515	159,147	161,923	165,728	172,298
Physical sciences	18,804	19,658	20,111	20,684	21,792	22,119	22,364	22,724	23,347
Astronomy	420	419	433	442	469	492	495	516	536
Chemistry	11,407	11,956	11,944	12,274	12,667	12,743	12,649	12,767	12,984
Physics	6,906	7,214	7,547	7,800	8,462	8,707	9,048	9,273	9,606
Physical sciences, n.e.c.	71	69	187	168	194	177	172	168	221
Earth, atmospheric, and ocean sciences	11,407	11,836	11,863	11,774	11,651	11,132	10,696	10,478	10,671
Atmospheric sciences	779	831	844	893	898	888	876	871	897
Geosciences	7,409	7,923	7,931	7,800	7,533	6,875	6,452	6,141	5,821
Oceanography	1,641	1,603	1,607	1,610	1,676	1,704	1,650	1,733	1,775
Earth, atmos., and ocean sci., n.e.c.	1,578	1,479	1,481	1,471	1,544	1,665	1,718	1,733	2,178
Mathematical sciences	9,878	10,076	10,506	10,912	11,553	12,140	12,795	12,834	13,379
Computer sciences	9,608	11,467	12,446	13,891	14,522	14,580	15,076	15,432	16,306
Agricultural sciences	11,305	11,227	11,033	10,363	10,363	10,031	9,986	10,057	10,115
Biological sciences	30,724	30,737	31,052	31,350	31,970	32,027	32,824	33,566	34,314
Anatomy	671	694	689	655	636	662	714	750	726
Biochemistry	2,727	2,848	3,017	3,208	3,387	3,277	3,393	3,468	3,502
Biology	6,211	6,302	6,278	6,410	6,550	6,503	6,673	6,871	6,985
Biometry/epidemiology	632	641	657	718	828	907	1,023	1,072	1,165
Biophysics	250	245	220	260	317	356	343	382	356
Botany	3,333	3,148	3,147	3,088	3,010	2,852	2,785	2,706	2,553
Cell biology	635	621	705	742	909	1,063	1,177	1,260	1,472
Ecology	970	905	975	929	905	884	884	939	986
Entomology/parasitology	1,490	1,426	1,383	1,290	1,256	1,177	1,178	1,115	1,126
Genetics	679	713	717	779	901	948	909	936	998
Microbiology	2,988	3,123	3,168	3,309	3,244	3,307	3,590	3,575	3,603
Nutrition	3,239	3,220	3,157	3,135	3,183	3,219	3,216	3,288	3,367
Pathology	905	949	947	926	928	979	920	955	950
Pharmacology	1,419	1,456	1,469	1,493	1,501	1,511	1,560	1,628	1,718
Physiology	1,422	1,396	1,487	1,510	1,489	1,488	1,476	1,515	1,538
Zoology	2,320	2,237	2,133	1,981	1,945	1,980	1,905	1,949	1,963
Biosciences, n.e.c.	833	813	903	917	981	949	1,078	1,157	1,306
Psychology	16,997	16,985	17,091	17,442	17,467	17,483	18,099	18,204	18,795
Social sciences	40,977	40,008	39,509	38,906	39,197	39,635	40,083	42,433	45,371
Agricultural economics	2,127	2,146	2,108	2,100	2,107	2,073	2,101	2,116	2,117
Anthropology	4,033	3,817	3,853	3,858	3,928	3,965	4,049	4,265	4,502
Economics (except agricultural)	7,792	7,530	7,276	7,150	7,181	7,074	7,113	7,189	7,244
Geography	2,486	2,422	2,395	2,325	2,409	2,517	2,443	2,663	2,751
History and philosophy of science	148	141	153	138	134	134	149	182	206
Linguistics	1,834	1,886	1,887	1,732	1,783	1,833	1,825	1,890	2,039
Political science	12,811	12,269	12,238	12,216	12,551	12,571	12,733	13,640	14,950
Sociology	4,619	4,483	4,368	4,244	4,348	4,581	4,672	4,898	5,118
Sociology/anthropology	582	553	553	535	571	572	638	673	804
Social sciences, n.e.c.	4,545	4,761	4,678	4,608	4,285	4,315	4,360	4,917	5,540
Total, health fields	26,552	26,496	27,552	28,129	29,734	30,595	31,784	33,645	35,956
Dentistry	611	541	600	562	689	809	833	748	759
Neurology	139	149	183	204	237	295	373	411	456
Nursing	10,405	11,021	11,567	11,276	12,190	12,249	12,743	13,155	14,178
Pharmaceutical sciences	1,726	1,719	1,725	1,785	1,829	1,803	1,871	2,096	2,182
Preventive medicine/community health ...	4,005	3,969	4,030	4,297	4,294	4,652	4,764	4,874	5,559
Speech pathology/audiology	5,708	4,775	4,799	4,836	5,019	4,599	4,833	5,025	5,355
Veterinary sciences	406	401	481	551	548	646	663	718	821
Clinical medicine, n.e.c.	974	927	937	1,072	1,004	1,041	1,087	1,066	1,109
Health related, n.e.c.	2,578	2,994	3,230	3,546	3,924	4,501	4,617	5,552	5,537

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-13. Science and engineering graduate students in private doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	110,575	110,664	110,099	114,968	117,024	118,212	118,724	117,895	119,690
Total, science/engineering fields	99,833	99,902	98,937	103,519	105,631	107,293	107,269	106,092	107,254
Engineering, total	28,927	31,467	32,098	32,766	34,118	32,822	31,754	30,132	29,792
Aerospace	601	660	639	687	736	758	852	881	886
Agricultural	54	53	54	53	51	48	45	50	48
Biomedical	450	523	564	580	578	609	641	694	836
Chemical	2,254	2,409	2,327	2,232	2,140	2,247	2,015	1,896	1,856
Civil	4,304	4,347	4,294	4,095	4,108	3,364	3,347	3,338	3,485
Electrical	9,012	10,603	11,010	11,150	11,344	11,212	11,501	11,296	10,879
Engineering science	592	618	680	709	841	840	904	813	862
Industrial	4,497	4,576	4,461	4,956	5,507	5,906	4,886	3,790	3,458
Mechanical	3,652	3,948	4,263	4,108	4,488	4,413	4,401	4,424	4,450
Metallurgical/materials	1,215	1,358	1,396	1,503	1,536	1,577	1,595	1,622	1,641
Mining	72	68	68	65	70	70	68	60	76
Nuclear	283	240	223	211	207	204	211	216	205
Petroleum	265	273	248	215	155	186	157	134	131
Engineering, n.e.c.	1,676	1,791	1,871	2,202	2,357	1,388	1,131	918	979
Sciences, total	70,906	68,435	66,839	70,753	71,513	74,471	75,515	75,960	77,462
Physical sciences	7,707	8,089	8,299	8,628	8,751	8,848	8,848	9,083	9,157
Astronomy	212	199	206	229	220	230	236	273	275
Chemistry	4,386	4,592	4,655	4,878	4,855	4,924	4,835	4,946	5,075
Physics	3,109	3,298	3,438	3,497	3,552	3,623	3,739	3,843	3,786
Physical sciences, n.e.c.	0	0	0	24	44	71	40	21	21
Earth, atmospheric, and ocean sciences	2,397	2,445	2,423	2,443	2,338	2,236	2,175	2,199	2,195
Atmospheric sciences	98	53	51	58	58	60	53	29	28
Geosciences	1,639	1,765	1,785	1,733	1,643	1,510	1,452	1,435	1,378
Oceanography	293	304	322	374	351	318	276	337	342
Earth, atmos., and ocean sci., n.e.c.	367	323	265	278	286	348	394	398	447
Mathematical sciences	4,892	4,849	4,561	4,356	4,110	4,052	4,097	4,071	3,918
Computer sciences	5,975	6,839	7,920	9,932	10,682	11,503	11,666	11,088	11,361
Agricultural sciences	291	311	294	317	312	308	316	298	330
Biological sciences	11,192	10,872	10,911	11,140	11,399	11,672	11,871	12,248	12,740
Anatomy	403	343	340	338	337	354	342	328	285
Biochemistry	1,363	1,346	1,443	1,449	1,489	1,526	1,533	1,650	1,617
Biology	3,677	3,249	3,258	3,141	3,218	3,121	3,119	3,200	3,300
Biometry/epidemiology	534	515	547	642	613	710	720	717	801
Biophysics	190	205	213	181	230	235	249	235	286
Botany	269	257	224	219	232	243	254	257	280
Cell biology	508	561	551	687	807	901	974	974	1,120
Ecology	48	57	59	49	51	50	79	98	97
Entomology/parasitology	50	49	55	52	50	67	62	66	68
Genetics	261	273	295	296	318	325	338	385	366
Microbiology	1,004	1,014	1,061	1,033	1,036	1,055	1,118	1,178	1,209
Nutrition	885	873	866	870	804	757	711	629	584
Pathology	508	470	477	382	405	407	423	407	407
Pharmacology	654	678	648	686	656	642	649	723	720
Physiology	636	598	673	701	731	725	744	691	738
Zoology	151	153	133	122	120	117	117	126	134
Biosciences, n.e.c.	51	231	268	292	302	437	512	546	728
Psychology	12,984	13,026	12,942	13,048	13,189	14,071	14,416	15,371	15,890
Social sciences	25,468	22,004	19,489	20,889	20,732	21,781	22,126	21,602	21,871
Agricultural economics	96	91	104	100	77	79	108	111	115
Anthropology	1,655	1,582	1,518	1,540	1,654	1,633	1,651	1,651	1,742
Economics (except agricultural)	4,860	4,485	4,236	4,241	4,057	4,165	4,206	4,240	4,324
Geography	232	218	209	217	182	185	195	186	187
History and philosophy of science	108	112	121	134	132	160	139	160	164
Linguistics	840	927	1,033	1,072	1,036	1,087	1,056	1,029	1,010
Political science	11,024	10,208	8,102	9,219	9,258	9,867	9,670	9,506	9,464
Sociology	2,051	1,893	1,754	1,758	1,653	1,749	1,767	1,766	1,822
Sociology/anthropology	460	461	371	333	310	310	274	273	321
Social sciences, n.e.c.	4,142	2,027	2,005	2,237	2,350	2,546	3,060	2,680	2,722
Total, health fields	10,742	10,762	11,162	11,449	11,393	10,919	11,455	11,803	12,436
Dentistry	225	235	250	273	249	248	252	259	210
Neurology	51	98	120	120	136	177	213	286	334
Nursing	3,956	3,965	4,346	4,456	4,004	3,784	3,549	3,757	4,064
Pharmaceutical sciences	782	835	703	674	764	722	660	732	779
Preventive medicine/community health	2,671	2,523	2,627	2,809	2,745	2,707	2,765	2,657	2,514
Speech pathology/audiology	1,019	1,091	1,005	1,178	1,013	933	1,094	1,138	1,086
Veterinary sciences	40	39	50	59	65	72	64	60	60
Clinical medicine, n.e.c.	338	373	371	426	444	501	535	537	564
Health related, n.e.c.	1,660	1,603	1,690	1,454	1,979	1,782	2,315	2,363	2,825

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-14. Science and engineering graduate students in doctorate-granting institutions by enrollment status and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

Enrollment status, citizenship, and racial/ethnic background	1982 1/	1983	1984	1985	1986	1987	1988	1989	1990
Total enrollment	336,080	342,956	346,264	355,875	366,927	372,101	377,360	384,014	398,405
Total U.S. citizens	NA	273,927	275,466	280,320	284,111	284,489	284,594	287,211	297,872
Black, non-Hispanic	9,285	9,631	9,363	9,407	9,397	9,464	10,292	10,674	11,565
American Indian/Alaskan Native	867	879	838	736	742	773	907	910	1,088
Asian/Pacific Islander	7,854	8,598	9,388	11,180	12,105	13,623	14,276	14,558	16,537
Hispanic	7,467	8,591	8,438	8,829	9,045	9,201	9,492	9,794	10,775
White, non-Hispanic	219,351	227,188	226,120	227,540	232,956	233,752	234,565	235,930	245,004
Other or unknown	NA	19,040	21,319	22,628	19,866	17,676	15,062	15,345	12,903
Non-U.S. citizens	NA	69,029	70,798	75,555	82,816	87,612	92,766	96,803	100,533
Full-time enrollment	229,860	235,957	237,293	241,458	250,251	254,556	259,596	266,937	275,262
Total U.S. citizens	174,739	176,515	176,435	175,808	177,799	178,530	178,764	183,040	188,099
Black, non-Hispanic	5,278	5,324	5,250	5,352	5,314	5,362	5,879	6,405	6,835
American Indian/Alaskan Native	557	578	560	498	514	534	598	609	706
Asian/Pacific Islander	5,074	5,669	6,406	7,280	8,086	9,189	9,632	9,956	11,279
Hispanic	4,620	5,335	5,379	5,725	5,878	5,838	6,160	6,572	7,247
White, non-Hispanic	142,690	149,655	148,412	145,708	148,967	148,402	149,239	151,666	155,886
Other or unknown	16,520	9,954	10,428	11,245	9,040	9,205	7,256	7,832	6,146
Non-U.S. citizens	55,121	59,442	60,858	65,650	72,452	76,026	80,832	83,897	87,163
Part-time enrollment	106,220	106,999	108,971	114,417	116,676	117,545	117,764	117,077	123,143
Total U.S. citizens	NA	97,412	99,031	104,512	106,312	105,959	105,830	104,171	109,773
Black, non-Hispanic	4,007	4,307	4,113	4,055	4,083	4,102	4,413	4,269	4,730
American Indian/Alaskan Native	310	301	278	238	228	239	309	301	382
Asian/Pacific Islander	2,780	2,929	2,982	3,900	4,019	4,434	4,644	4,602	5,258
Hispanic	2,847	3,256	3,059	3,104	3,167	3,363	3,332	3,222	3,528
White, non-Hispanic	76,661	77,533	77,708	81,832	83,989	85,350	85,326	84,264	89,118
Other or unknown	NA	9,086	10,891	11,383	10,826	8,471	7,806	7,513	6,757
Non-U.S. citizens	NA	9,587	9,940	9,905	10,364	11,586	11,934	12,906	13,370

1/ Citizenship data are not available prior to 1983.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-15. Science and engineering graduate students in doctorate-granting institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982 1/	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	336,080	342,956	346,264	355,875	366,927	372,101	377,360	384,014	398,405
Total U.S. citizens	NA	273,927	275,466	280,320	284,111	284,489	284,594	287,211	297,872
Black, non-Hispanic	9,285	9,631	9,363	9,407	9,397	9,464	10,292	10,674	11,565
American Indian/Alaskan Native	867	879	838	736	742	773	907	910	1,087
Asian/Pacific Islander	7,854	8,598	9,388	11,180	12,105	13,523	14,276	14,558	16,537
Hispanic	7,467	8,591	8,138	8,829	9,045	9,201	9,492	9,794	10,775
White, non-Hispanic	219,351	227,188	226,120	227,540	232,956	233,752	234,565	235,930	245,004
Other or unknown	NA	19,040	21,319	22,628	19,866	17,676	15,062	15,345	12,903
Non-U.S. citizens	NA	69,029	70,798	75,555	82,816	87,612	92,766	96,803	100,533
Sciences, total	220,606	220,389	220,450	226,075	230,028	233,618	237,438	241,688	249,760
Total U.S. citizens	NA	180,514	179,020	181,177	181,177	181,465	182,114	183,585	189,461
Black, non-Hispanic	6,993	6,972	6,537	6,608	6,491	6,583	7,079	7,257	7,891
American Indian/Alaskan Native	579	573	535	508	496	526	623	615	755
Asian/Pacific Islander	4,580	4,907	5,252	6,039	6,501	7,457	7,924	8,082	9,114
Hispanic	5,680	6,075	5,868	6,136	6,128	6,078	6,230	6,573	7,204
White, non-Hispanic	149,626	152,112	149,205	150,022	151,279	151,459	152,808	153,602	158,235
Other or unknown	NA	9,875	11,623	11,864	10,282	9,362	7,450	7,456	6,262
Non-U.S. citizens	NA	39,875	41,430	44,898	48,851	52,153	55,324	58,103	60,299
Physical sciences	26,511	27,747	28,410	29,312	30,543	30,967	31,212	31,807	32,504
Total U.S. citizens	NA	20,375	20,618	20,690	20,826	20,687	20,470	20,405	20,511
Black, non-Hispanic	436	427	456	388	383	398	437	482	501
American Indian/Alaskan Native	41	37	70	31	42	42	43	42	62
Asian/Pacific Islander	628	641	787	837	822	936	1,103	1,001	1,120
Hispanic	461	539	507	564	587	547	572	624	596
White, non-Hispanic	16,733	17,641	17,631	17,369	17,654	17,186	17,382	17,391	17,645
Other or unknown	NA	1,090	1,167	1,501	1,338	1,578	933	865	587
Non-U.S. citizens	NA	7,372	7,792	8,622	9,717	10,280	10,742	11,402	11,993
Earth, atmospheric, and ocean sciences ..	13,804	14,281	14,286	14,217	13,989	13,368	12,871	12,677	12,866
Total U.S. citizens	NA	12,479	12,550	12,403	11,944	11,202	10,492	10,129	10,237
Black, non-Hispanic	78	99	101	111	90	87	97	81	103
American Indian/Alaskan Native	18	24	21	22	20	17	25	26	30
Asian/Pacific Islander	178	206	155	167	126	159	179	184	234
Hispanic	156	200	241	192	197	212	198	198	219
White, non-Hispanic	10,423	11,350	10,952	10,899	10,815	10,200	9,643	9,317	9,439
Other or unknown	NA	600	1,080	1,012	696	527	350	323	212
Non-U.S. citizens	NA	1,802	1,736	1,814	2,045	2,166	2,379	2,548	2,629
Mathematical sciences	14,770	14,885	15,067	15,268	15,663	16,192	16,892	16,905	17,297
Total U.S. citizens	NA	10,270	10,176	10,177	10,178	10,390	10,761	10,557	11,204
Black, non-Hispanic	270	275	255	267	303	306	283	305	355
American Indian/Alaskan Native	26	20	15	14	22	40	25	25	14
Asian/Pacific Islander	404	426	421	498	586	645	619	556	719
Hispanic	244	295	250	231	240	234	291	268	328
White, non-Hispanic	8,514	8,585	8,419	8,336	8,192	8,298	8,784	8,614	9,095
Other or unknown	NA	669	816	831	835	867	759	789	693
Non-U.S. citizens	NA	4,615	4,891	5,091	5,485	5,802	6,131	6,348	6,093
Computer sciences	15,583	18,306	20,366	23,823	25,204	26,083	26,742	26,520	27,667
Total U.S. citizens	NA	13,552	14,830	17,391	18,303	18,546	18,890	18,081	18,513
Black, non-Hispanic	350	371	377	457	506	591	637	657	704
American Indian/Alaskan Native	21	13	43	50	12	16	30	33	30
Asian/Pacific Islander	646	808	890	1,376	1,526	1,837	2,058	1,982	2,198
Hispanic	176	194	208	381	347	436	403	449	473
White, non-Hispanic	9,229	10,202	10,889	12,689	13,543	14,108	14,543	13,742	14,172
Other or unknown	NA	1,964	2,423	2,438	2,369	1,558	1,219	1,218	936
Non-U.S. citizens	NA	4,754	5,536	6,432	6,901	7,537	7,852	8,439	9,154
Agricultural sciences	11,596	11,538	11,327	10,680	10,675	10,339	10,302	10,355	10,445
Total U.S. citizens	NA	8,963	8,827	8,166	8,022	7,558	7,524	7,635	7,594
Black, non-Hispanic	122	116	118	117	97	112	124	131	137
American Indian/Alaskan Native	25	26	21	15	16	21	22	22	18
Asian/Pacific Islander	131	116	126	115	116	151	155	227	248
Hispanic	183	200	224	284	273	194	230	260	257
White, non-Hispanic	8,043	8,179	8,167	7,302	7,263	6,910	6,782	6,795	6,772
Other or unknown	NA	326	171	333	257	170	171	200	162
Non-U.S. citizens	NA	2,575	2,500	2,514	2,653	2,781	2,778	2,720	2,851

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-15. Science and engineering graduate students in doctorate-granting institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982 1/	1983	1984	1985	1986	1987	1988	1989	1990
Biological sciences	41,916	41,609	41,963	42,490	43,369	43,699	44,695	45,814	47,054
Total U.S. citizens	NA	35,813	35,884	35,805	35,747	35,165	35,123	35,176	35,664
Black, non-Hispanic	831	816	834	867	850	816	928	969	1,002
American Indian/Alaskan Native	71	95	71	76	95	81	97	76	129
Asian/Pacific Islander	1,041	1,156	1,222	1,348	1,497	1,588	1,722	1,875	2,185
Hispanic	696	768	765	838	873	943	1,014	1,102	1,106
White, non-Hispanic	31,708	31,826	32,086	31,461	31,321	30,486	30,559	30,137	30,409
Other or unknown	NA	1,152	908	1,215	1,111	1,251	803	1,017	833
Non-U.S. citizens	NA	5,796	6,079	6,685	7,622	8,534	9,572	10,638	11,390
Psychology	29,981	30,011	30,033	30,490	30,656	31,554	32,515	33,575	34,685
Total U.S. citizens	NA	28,822	28,832	29,202	29,360	30,220	31,064	32,106	33,076
Black, non-Hispanic	1,149	1,286	1,309	1,191	1,197	1,223	1,299	1,309	1,421
American Indian/Alaskan Native	89	90	82	99	95	107	124	136	181
Asian/Pacific Islander	358	382	409	437	487	602	624	667	771
Hispanic	1,249	1,278	1,356	1,376	1,456	1,369	1,407	1,387	1,689
White, non-Hispanic	22,699	24,296	23,680	24,111	24,561	25,789	26,467	27,504	28,226
Other or unknown	NA	1,490	1,996	1,988	1,564	1,130	1,143	1,103	788
Non-U.S. citizens	NA	1,189	1,201	1,288	1,296	1,334	1,451	1,469	1,609
Social sciences	66,445	62,012	58,998	59,795	59,929	61,416	62,209	64,035	67,242
Total U.S. citizens	NA	50,240	47,303	47,343	46,797	47,697	47,790	49,496	52,662
Black, non-Hispanic	3,757	3,582	3,087	3,210	3,065	3,050	3,274	3,323	3,668
American Indian/Alaskan Native	291	268	212	201	194	202	257	255	291
Asian/Pacific Islander	1,194	1,172	1,242	1,261	1,341	1,539	1,424	1,590	1,639
Hispanic	2,515	2,601	2,319	2,270	2,155	2,143	2,115	2,285	2,536
White, non-Hispanic	42,277	40,033	37,381	37,855	37,930	38,482	38,648	40,102	42,677
Other or unknown	NA	2,584	3,062	2,546	2,112	2,281	2,072	1,941	2,051
Non-U.S. citizens	NA	11,772	11,695	12,452	13,132	13,719	14,419	14,539	14,580
Engineering, total	78,180	85,309	87,100	90,222	95,772	96,969	96,683	96,878	100,253
Total U.S. citizens	NA	58,906	60,350	62,527	64,969	64,717	62,712	61,916	64,115
Black, non-Hispanic	984	1,203	1,295	1,230	1,307	1,278	1,325	1,423	1,534
American Indian/Alaskan Native	148	156	176	112	123	107	126	111	143
Asian/Pacific Islander	2,409	2,833	3,278	4,280	4,647	5,182	5,224	5,221	5,869
Hispanic	992	1,303	1,372	1,337	1,535	1,592	1,580	1,563	1,749
White, non-Hispanic	40,039	45,276	46,059	47,001	49,651	50,261	48,789	47,512	49,353
Other or unknown	NA	8,135	8,170	8,567	7,706	6,597	5,668	6,086	5,467
Non-U.S. citizens	NA	26,403	26,750	27,695	30,803	32,252	33,971	34,962	36,138
Chemical engineering	6,929	7,352	7,196	7,015	6,891	6,990	6,532	6,361	6,618
Total U.S. citizens	NA	4,888	4,880	4,623	4,555	4,541	4,016	3,606	3,729
Black, non-Hispanic	81	80	69	68	82	85	83	78	81
American Indian/Alaskan Native	13	11	9	8	5	26	24	10	5
Asian/Pacific Islander	278	292	321	262	280	348	308	241	334
Hispanic	88	81	132	101	110	110	132	108	147
White, non-Hispanic	3,669	4,134	4,004	3,785	3,821	3,755	3,326	3,041	3,095
Other or unknown	NA	290	345	399	257	217	143	128	67
Non-U.S. citizens	NA	2,464	2,316	2,392	2,336	2,449	2,516	2,755	2,889
Civil engineering	13,533	14,414	14,737	14,421	14,472	13,831	14,096	14,136	14,773
Total U.S. citizens	NA	9,291	9,537	9,121	8,871	8,334	8,400	8,469	8,990
Black, non-Hispanic	126	161	188	184	173	159	178	218	202
American Indian/Alaskan Native	18	21	18	15	28	7	16	20	33
Asian/Pacific Islander	359	392	389	400	433	544	544	538	684
Hispanic	192	258	261	221	262	236	247	252	289
White, non-Hispanic	6,785	7,370	7,460	7,189	7,078	6,771	6,970	6,925	7,289
Other or unknown	NA	1,089	1,221	1,112	897	617	445	513	523
Non-U.S. citizens	NA	5,123	5,200	5,300	5,601	5,497	5,696	5,667	5,783
Electrical engineering	20,582	23,545	24,599	26,375	27,940	29,028	29,778	30,213	30,453
Total U.S. citizens	NA	16,220	17,354	18,364	18,875	19,389	19,996	19,940	19,729
Black, non-Hispanic	272	307	355	399	381	372	433	473	497
American Indian/Alaskan Native	55	39	40	26	39	15	33	34	45
Asian/Pacific Islander	726	954	1,272	1,789	1,906	2,162	2,269	2,326	2,555
Hispanic	291	354	385	408	448	481	471	493	495
White, non-Hispanic	9,919	11,338	11,823	12,671	13,057	13,867	14,224	14,244	14,020
Other or unknown	NA	3,228	3,479	3,071	3,044	2,495	2,566	2,370	2,117
Non-U.S. citizens	NA	7,325	7,245	8,011	9,065	9,639	9,782	10,273	10,724

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-15. Science and engineering graduate students in doctorate-granting institutions by field and citizenship, and racial/ethnic background of U.S. citizens: 1982-90

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Field, citizenship, and racial/ethnic background	1982 1/	1983	1984	1985	1986	1987	1988	1989	1990
Industrial engineering	9,008	8,794	8,940	10,084	11,068	11,687	10,819	10,324	10,288
Total U.S. citizens	NA	7,152	7,165	8,170	8,950	9,130	8,221	7,536	7,378
Black, non-Hispanic	193	274	278	207	258	258	256	235	254
American Indian/Alaskan Native	14	14	27	11	10	22	13	14	22
Asian/Pacific Islander	254	194	216	300	378	419	444	404	400
Hispanic	167	212	274	341	370	275	272	235	253
White, non-Hispanic	5,355	5,745	5,515	6,532	6,859	7,508	6,694	6,005	5,667
Other or unknown	NA	713	855	879	1,175	648	542	643	782
Non-U.S. citizens	NA	1,642	1,775	1,914	2,118	2,557	2,598	2,788	2,910
Mechanical engineering	10,767	12,089	12,966	13,246	14,607	15,090	15,050	14,937	15,511
Total U.S. citizens	NA	7,637	8,310	8,658	9,412	9,785	9,245	9,445	9,826
Black, non-Hispanic	94	117	154	141	144	166	170	171	213
American Indian/Alaskan Native	14	16	27	22	13	19	10	9	13
Asian/Pacific Islander	308	366	418	695	731	783	672	686	676
Hispanic	102	108	113	164	220	256	186	184	246
White, non-Hispanic	5,018	6,301	6,664	6,680	7,381	7,353	7,214	6,905	7,613
Other or unknown	NA	729	934	956	923	1,208	993	1,490	1,065
Non-U.S. citizens	NA	4,452	4,656	4,588	5,195	5,305	5,805	5,492	5,685
Other engineering	17,361	19,115	18,662	19,081	20,794	20,343	20,408	20,907	22,610
Total U.S. citizens	NA	13,718	13,104	13,591	14,306	13,538	12,834	12,920	14,463
Black, non-Hispanic	218	264	251	231	269	238	205	248	287
American Indian/Alaskan Native	34	55	55	30	28	21	30	24	25
Asian/Pacific Islander	484	635	662	834	919	926	987	1,026	1,220
Hispanic	152	290	207	202	225	234	272	288	319
White, non-Hispanic	9,293	10,388	10,593	10,144	11,455	11,007	10,361	10,392	11,699
Other or unknown	NA	2,086	1,336	2,150	1,410	1,112	979	942	913
Non-U.S. citizens	NA	5,397	5,558	5,490	6,488	6,805	7,574	7,987	8,147
Total, health fields	37,294	37,258	38,714	39,578	41,127	41,514	43,239	45,448	48,392
Total U.S. citizens	NA	34,507	36,096	36,616	37,965	38,307	39,768	41,710	44,296
Black, non-Hispanic	1,308	1,456	1,531	1,569	1,599	1,603	1,888	1,994	2,140
American Indian/Alaskan Native	140	150	127	116	123	140	158	184	190
Asian/Pacific Islander	865	858	858	861	957	984	1,128	1,255	1,554
Hispanic	795	1,213	1,198	1,356	1,382	1,531	1,682	1,658	1,822
White, non-Hispanic	29,686	29,800	30,856	30,517	32,026	32,032	32,968	34,816	37,416
Other or unknown	NA	1,030	1,526	2,197	1,878	2,017	1,944	1,803	1,174
Non-U.S. citizens	NA	2,751	2,618	2,962	3,162	3,207	3,471	3,738	4,096

1/ Citizenship data are not available prior to 1983.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-16. Full-time science and engineering graduate students in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1994	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	229,860	235,957	237,293	241,458	250,251	254,556	259,596	266,937	275,262
Total, science/engineering fields	208,954	215,499	216,585	220,309	229,068	232,887	237,062	243,062	250,013
Engineering, total	48,692	52,684	53,963	54,807	59,013	60,325	61,479	62,533	64,169
Aerospace	1,519	1,825	1,840	1,980	2,138	2,355	2,517	2,742	2,946
Agricultural	739	766	773	767	881	924	879	851	793
Biomedical	908	1,012	1,106	1,117	1,280	1,352	1,402	1,572	1,761
Chemical	5,524	5,790	5,656	5,494	5,542	5,632	5,330	5,245	5,420
Civil	9,432	9,911	10,219	9,850	10,074	9,586	9,829	9,852	10,164
Electrical	11,277	12,854	13,461	14,358	15,832	16,457	17,012	17,597	17,879
Engineering science	1,252	1,339	1,256	1,246	1,427	1,369	1,421	1,269	1,321
Industrial	3,590	3,142	3,276	3,355	3,715	4,067	4,177	4,491	4,543
Mechanical	7,128	8,178	8,511	8,683	9,599	9,966	10,198	10,147	10,505
Metallurgical/materials	2,453	2,686	2,863	3,070	3,317	3,370	3,398	3,657	3,824
Mining	351	404	403	371	419	406	379	312	306
Nuclear	1,042	1,052	1,018	1,030	1,059	1,044	1,105	1,112	1,080
Petroleum	470	607	602	551	551	619	570	494	475
Engineering, n.e.c.	3,007	3,118	2,979	2,935	3,179	3,178	3,262	3,212	3,152
Sciences, total	160,262	162,815	162,622	165,502	170,055	172,562	175,583	180,529	185,844
Physical sciences	23,339	24,502	25,147	25,938	27,069	27,652	27,778	28,429	28,845
Astronomy	590	585	596	635	654	681	705	762	790
Chemistry	13,755	14,495	14,615	15,067	15,537	15,735	15,582	15,810	15,988
Physics	8,941	9,361	9,800	10,103	10,753	11,078	11,373	11,761	11,931
Physical sciences, n.e.c.	53	61	136	133	125	158	118	96	136
Earth, atmospheric, and ocean sciences	10,918	11,497	11,266	10,871	10,862	10,097	9,837	9,715	9,848
Atmospheric sciences	771	778	770	867	854	822	825	803	828
Geosciences	7,285	7,908	7,797	7,350	7,110	6,411	6,060	5,788	5,574
Oceanography	1,551	1,547	1,518	1,520	1,652	1,603	1,576	1,745	1,798
Earth, atmos., and ocean sci., n.e.c.	1,311	1,264	1,181	1,134	1,246	1,261	1,376	1,379	1,648
Mathematical sciences	10,178	10,316	10,613	11,160	11,727	12,345	12,809	13,024	13,202
Computer sciences	7,911	9,276	10,108	12,374	13,389	13,639	13,701	14,070	14,701
Agricultural sciences	9,519	9,420	9,323	8,721	8,852	8,611	8,588	8,538	8,552
Biological sciences	35,248	35,234	35,688	35,696	36,609	37,236	38,259	39,443	40,132
Anatomy	937	921	936	891	893	929	973	999	922
Biochemistry	3,832	3,981	4,245	4,771	4,649	4,625	4,759	4,869	4,921
Biology	7,339	7,519	7,545	7,194	7,348	7,457	7,671	8,114	8,109
Biometry/epidemiology	919	877	751	996	1,055	1,197	1,244	1,248	1,264
Biophysics	423	437	419	381	449	468	544	610	605
Botany	3,143	3,013	2,969	2,814	2,844	2,672	2,649	2,555	2,428
Cell biology	1,110	1,138	1,209	1,406	1,655	1,886	2,023	2,177	2,515
Ecology	905	835	865	864	884	822	872	884	884
Entomology/parasitology	1,340	1,305	1,264	1,138	1,107	1,062	1,061	1,009	1,015
Genetics	877	919	942	1,014	1,129	1,167	1,146	1,240	1,275
Microbiology	3,499	3,680	3,803	3,867	3,853	4,000	4,296	4,310	4,351
Nutrition	3,033	2,882	2,895	2,916	2,928	2,892	2,758	2,737	2,813
Pathology	1,014	1,063	1,077	1,029	1,065	1,120	1,117	1,145	1,116
Pharmacology	1,939	2,002	1,997	2,064	2,036	2,004	2,070	2,221	2,294
Physiology	1,805	1,766	1,969	1,986	2,005	1,996	2,008	2,057	2,116
Zoology	2,118	2,025	1,844	1,699	1,708	1,775	1,708	1,766	1,677
Biosciences, n.e.c.	715	871	968	966	1,041	1,202	1,410	1,514	1,827
Psychology	21,894	22,150	21,600	21,334	21,995	22,629	23,376	24,661	24,930
Social sciences	41,255	40,420	38,877	39,408	39,552	40,353	41,235	42,649	45,634
Agricultural economics	1,956	1,994	1,975	1,946	1,915	1,823	1,878	1,885	1,934
Anthropology	4,027	3,866	3,900	3,795	3,996	4,027	4,189	4,336	4,658
Economics (except agricultural)	9,087	8,859	8,478	8,614	8,668	8,709	8,787	8,857	9,073
Geography	1,987	2,025	1,997	1,950	1,942	2,074	1,982	2,115	2,191
History and philosophy of science	223	229	243	227	237	267	266	303	340
Linguistics	2,145	2,316	2,264	2,303	2,307	2,388	2,438	2,389	2,536
Political science	12,159	11,868	11,060	11,548	11,824	11,628	11,979	12,600	13,830
Sociology	4,648	4,566	4,424	4,361	4,347	4,743	4,826	4,980	5,336
Sociology/anthropology	612	596	572	534	550	527	538	607	744
Social sciences, n.e.c.	4,411	4,101	3,964	4,130	3,766	4,167	4,352	4,577	4,992
Total, health fields	20,906	20,458	20,708	21,149	21,183	21,669	22,534	23,875	25,249
Dentistry	727	701	768	745	825	909	930	859	840
Neurology	188	244	299	322	370	470	583	682	778
Nursing	6,196	5,726	5,682	5,536	5,779	5,350	5,333	5,318	5,444
Pharmaceutical sciences	1,702	1,695	1,697	1,716	1,763	1,746	1,828	2,036	2,137
Preventive medicine/community health	4,029	3,926	3,915	4,090	4,032	4,112	4,173	4,171	4,442
Speech pathology/audiology	4,436	4,362	4,319	4,475	4,344	4,014	4,315	4,554	4,596
Veterinary sciences	356	337	402	491	486	575	589	649	698
Clinical medicine, n.e.c.	982	994	979	1,112	1,084	1,160	1,224	1,314	1,384
Health related, n.e.c.	2,290	2,473	2,647	2,662	2,900	3,333	3,559	4,292	4,930

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-17. Full-time science and engineering graduate students in doctorate-granting institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	229,860	235,957	237,293	241,458	250,251	254,556	259,596	266,937	275,262
New England	18,457	18,862	19,007	19,512	20,416	20,312	20,897	20,991	21,905
Connecticut	3,173	3,264	3,120	3,353	3,421	3,525	3,527	3,516	3,650
Maine	361	412	462	405	421	445	504	505	524
Massachusetts	12,465	12,669	12,828	13,201	13,896	13,545	14,109	14,115	14,759
New Hampshire	672	665	693	698	743	763	820	785	883
Rhode Island	1,371	1,426	1,478	1,434	1,524	1,625	1,491	1,609	1,597
Vermont	415	426	426	421	411	409	446	461	492
Middle Atlantic	35,068	35,493	36,560	37,092	38,802	39,480	40,177	41,216	41,436
New Jersey	4,050	3,993	4,460	4,700	5,022	5,522	5,435	5,648	5,351
New York	20,894	20,991	21,602	21,727	22,952	23,037	23,525	23,614	24,001
Pennsylvania	10,124	10,509	10,498	10,665	10,828	10,921	11,217	11,954	12,084
East North Central	43,690	45,143	44,270	45,387	47,049	49,272	50,819	52,492	53,836
Illinois	11,540	12,174	12,263	12,688	13,509	14,172	14,522	14,793	15,094
Indiana	5,782	5,872	5,931	5,869	6,114	6,483	6,650	7,290	7,510
Michigan	8,773	9,020	9,016	9,154	9,498	9,645	9,755	10,352	10,555
Ohio	11,625	12,195	11,117	11,803	12,030	12,955	13,690	13,638	14,070
Wisconsin	5,970	5,882	5,943	5,873	5,898	6,017	6,202	6,419	6,607
West North Central	17,287	17,905	17,620	17,177	17,575	17,672	18,034	18,071	18,514
Iowa	3,572	3,812	3,658	3,777	3,853	3,860	4,082	4,147	4,347
Kansas	3,311	3,484	3,120	3,399	3,437	3,455	2,570	2,594	2,649
Minnesota	4,179	4,168	4,433	4,600	4,661	4,560	4,720	4,771	4,736
Missouri	3,530	3,617	3,620	3,642	3,879	3,967	3,806	3,732	3,842
Nebraska	1,432	1,662	1,472	1,409	1,347	1,467	1,467	1,426	1,498
North Dakota	764	779	726	758	811	787	803	782	755
South Dakota	499	583	591	582	587	583	586	619	687
South Atlantic	31,307	31,542	32,115	33,109	34,761	35,176	36,706	38,501	40,098
Delaware	734	776	699	762	800	857	844	899	1,024
District of Columbia	3,248	2,975	2,980	3,384	3,386	3,425	3,628	3,383	3,602
Florida	6,033	5,840	6,027	6,364	6,450	6,285	6,864	6,668	7,364
Georgia	4,366	4,452	4,805	4,489	4,786	4,904	4,956	5,044	5,471
Maryland	3,525	3,742	3,610	3,752	4,094	4,134	4,479	4,823	5,044
North Carolina	5,713	5,792	5,798	5,803	6,263	6,255	6,627	6,983	7,169
South Carolina	1,833	2,045	2,031	2,096	2,277	2,282	2,228	2,408	2,502
Virginia	4,605	4,702	4,990	5,331	5,616	6,078	6,107	6,250	6,766
West Virginia	1,250	1,218	1,175	1,128	1,089	956	973	1,043	1,156
East South Central	8,291	8,595	8,942	9,169	9,585	9,890	10,390	10,993	10,780
Alabama	2,090	2,150	2,332	2,577	2,863	3,073	3,253	3,529	3,257
Kentucky	1,770	1,847	1,966	1,884	1,862	1,923	1,979	2,051	2,040
Mississippi	1,443	1,599	1,657	1,586	1,730	1,742	1,812	1,876	1,975
Tennessee	2,988	2,999	2,987	3,122	3,130	3,152	3,346	3,537	3,508
West South Central	20,478	22,077	22,711	22,348	22,923	22,720	22,515	23,507	24,521
Arkansas	890	839	825	783	786	715	678	729	810
Louisiana	2,989	3,126	3,502	3,552	3,483	3,566	3,439	3,532	3,700
Oklahoma	2,688	2,904	2,908	2,543	2,625	2,519	2,345	2,304	2,591
Texas	13,911	15,208	15,476	15,470	16,029	15,920	16,053	16,942	17,420
Mountain	16,143	16,721	16,391	16,607	17,304	17,931	17,945	17,855	18,772
Arizona	3,932	4,280	4,328	4,568	4,884	4,866	5,280	5,223	5,199
Colorado	5,039	4,993	4,800	5,001	5,257	5,696	5,457	5,269	5,952
Idaho	655	653	599	561	583	661	657	719	800
Montana	901	949	947	861	795	759	798	811	831
Nevada	355	390	432	428	410	493	450	563	463
New Mexico	1,649	1,784	1,740	1,806	1,917	2,078	1,944	1,842	2,016
Utah	2,911	2,878	2,889	2,860	2,984	2,820	2,820	2,818	2,870
Wyoming	701	794	656	522	474	558	539	630	641
Pacific	37,773	38,120	37,971	39,280	40,103	40,590	40,580	41,721	43,581
Alaska	271	325	345	212	302	223	224	346	326
California	29,467	29,660	29,196	30,419	30,978	31,692	31,528	32,614	34,057
Hawaii	1,548	1,502	1,460	1,467	1,570	1,527	1,522	1,539	1,655
Oregon	2,440	2,539	2,633	2,705	2,864	2,830	2,904	2,866	3,029
Washington	4,047	4,094	4,337	4,477	4,389	4,318	4,402	4,356	4,514
Outlying areas	1,366	1,499	1,706	1,777	1,733	1,513	1,533	1,590	1,819

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-18. Full-time science and engineering graduate students in doctorate-granting institutions
by field and source of major support: 1982-90

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Field and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields									
Total, all sources	229,860	235,957	237,293	241,458	250,251	254,556	259,596	266,937	275,262
Federal, total	46,395	46,755	46,759	48,092	50,386	52,620	54,535	56,706	58,516
Dept of Defense	5,842	6,871	7,020	7,214	7,836	8,689	9,424	9,122	8,702
Dept of HHS, total	15,562	14,751	14,865	15,615	16,147	16,935	17,684	18,496	19,303
NIH	10,700	10,718	10,885	11,037	11,809	12,874	13,680	14,390	14,939
Other HHS	4,862	4,033	3,980	4,578	4,338	4,061	4,004	4,106	4,364
NSF	9,203	9,465	9,801	10,148	10,806	11,209	11,594	11,835	11,949
USDA	NA	NA	NA	2,131	2,312	2,625	2,557	2,690	2,661
All other Federal	15,788	15,668	15,073	12,984	13,285	13,162	13,276	14,563	15,901
Institutional support	91,401	93,945	97,714	100,154	105,370	108,294	110,913	115,006	118,349
Other outside support, total	23,395	24,086	24,147	25,992	26,069	24,743	25,025	25,382	26,020
All other U.S.	14,692	15,453	16,235	18,437	18,644	17,926	18,423	18,930	19,568
Foreign	8,703	8,633	7,912	7,555	7,425	6,817	6,602	6,452	6,452
Self-support	68,669	71,171	68,673	67,220	68,426	68,899	69,123	69,843	72,377
Sciences, total									
Total, all sources	160,262	162,815	162,622	165,502	170,055	172,562	175,583	180,529	185,844
Federal, total	29,269	29,321	29,697	31,000	32,289	33,445	34,549	36,131	37,151
Dept of Defense	2,532	2,633	2,975	3,185	3,203	3,888	4,249	3,921	3,682
Dept of HHS, total	10,368	10,076	10,255	10,624	11,250	11,932	12,655	13,332	13,784
NIH	9,067	9,064	9,395	9,537	10,244	10,902	11,731	12,254	12,659
Other HHS	1,301	1,012	860	1,087	1,006	1,030	924	1,078	1,125
NSF	6,602	6,762	7,075	7,426	7,647	7,685	7,749	8,033	8,040
USDA	NA	NA	NA	1,946	2,076	2,321	2,329	2,434	2,311
All other Federal	10,067	9,810	9,392	7,819	7,819	7,619	7,567	8,411	9,334
Institutional support	71,641	73,214	75,599	76,718	79,830	81,730	83,841	86,248	88,762
Other outside support, total	14,481	14,585	14,024	14,863	14,489	13,758	13,995	14,159	14,280
All other U.S.	8,612	8,747	8,773	9,666	9,712	9,375	9,647	10,111	10,328
Foreign	5,869	5,838	5,251	4,897	4,777	4,383	4,348	4,048	3,952
Self-support	44,871	45,695	43,302	42,921	43,447	43,629	43,198	43,991	45,651
Physical sciences									
Total, all sources	23,339	24,502	25,147	25,938	27,069	27,652	27,778	28,429	28,845
Federal, total	7,644	8,050	8,551	8,723	9,434	9,616	9,748	10,126	10,215
Dept of Defense	706	827	997	1,013	1,147	1,273	1,465	1,379	1,202
Dept of HHS, total	1,490	1,507	1,592	1,763	1,992	2,071	2,122	2,089	2,103
NIH	1,408	1,409	1,471	1,602	1,827	1,908	1,973	1,960	1,959
Other HHS	82	98	121	161	165	163	149	129	144
NSF	3,102	3,210	3,393	3,500	3,661	3,574	3,642	3,592	3,557
USDA	NA	NA	NA	34	31	44	32	43	54
All other Federal	2,346	2,506	2,569	2,413	2,603	2,654	2,487	3,023	3,299
Institutional support	12,582	13,166	13,281	13,536	14,013	14,408	14,417	14,727	14,867
Other outside support, total	1,740	1,688	1,791	2,046	1,907	1,833	2,004	2,004	1,985
All other U.S.	1,295	1,225	1,355	1,617	1,566	1,561	1,651	1,752	1,733
Foreign	445	463	436	429	341	272	311	252	252
Self-support	1,373	1,598	1,524	1,633	1,715	1,795	1,651	1,572	1,778
Earth, atmospheric, and ocean sciences									
Total, all sources	10,918	11,497	11,266	10,871	10,862	10,097	9,837	9,715	9,848
Federal, total	2,808	2,831	2,811	2,933	3,014	2,855	2,782	2,845	2,914
Dept of Defense	300	363	372	415	452	497	457	435	408
Dept of HHS, total	73	32	38	39	37	56	51	25	34
NIH	38	9	27	24	23	19	19	17	21
Other HHS	35	23	11	15	14	34	32	8	13
NSF	1,186	1,315	1,332	1,372	1,356	1,260	1,236	1,247	1,182
USDA	NA	NA	NA	34	18	33	45	63	63
All other Federal	1,249	1,121	1,069	1,073	1,151	1,009	993	1,096	1,227
Institutional support	4,097	4,073	4,177	3,975	4,192	4,043	4,151	4,144	4,065
Other outside support, total	1,199	1,256	1,222	1,375	1,162	988	1,005	977	966
All other U.S.	839	953	909	1,020	852	663	644	637	694
Foreign	360	303	313	355	310	325	361	340	272
Self-support	2,814	3,337	3,056	2,588	2,494	2,211	1,899	1,749	1,903
Mathematical sciences									
Total, all sources	10,178	10,316	10,613	11,160	11,727	12,345	12,809	13,024	13,202
Federal, total	802	747	755	930	992	1,083	1,168	1,178	1,308
Dept of Defense	363	305	303	385	429	435	511	394	366
Dept of HHS, total	39	41	26	21	24	30	28	36	49
NIH	25	28	22	18	19	24	25	28	39
Other HHS	14	13	4	3	5	6	3	8	10
NSF	228	222	277	321	357	435	463	470	499
USDA	NA	NA	NA	13	18	16	20	22	23
All other Federal	172	179	149	190	164	167	146	256	371
Institutional support	6,828	7,120	7,389	7,758	8,170	8,506	8,785	9,028	9,109
Other outside support, total	536	507	626	754	587	536	610	596	554
All other U.S.	182	172	267	253	245	250	347	359	321
Foreign	354	335	359	290	342	306	263	337	323
Self-support	2,012	1,942	1,843	1,929	1,978	2,220	2,246	2,222	2,231

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-18. Full-time science and engineering graduate students in doctorate-granting institutions by field and source of major support: 1982-90

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Field and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Computer sciences									
Total, all sources	7,911	9,276	10,108	12,374	13,389	13,639	13,701	14,070	14,701
Federal, total	973	1,045	1,215	1,568	1,818	2,022	2,167	2,319	2,406
Dept of Defense	367	441	611	840	1,014	1,114	1,205	1,158	1,127
Dept of HHS, total	46	29	25	21	45	62	64	60	68
NIH	42	26	24	20	43	61	64	53	61
Other HHS	4	3	1	1	2	1	0	7	7
NSF	385	384	431	502	527	623	633	779	818
USDA	NA	NA	NA	4	3	17	10	7	14
All other Federal	175	191	148	201	229	206	255	315	379
Institutional support	2,581	3,073	3,486	4,084	4,315	4,750	4,879	5,015	5,171
Other outside support, total	670	689	705	1,261	1,424	1,115	1,139	1,186	1,237
All other U.S.	502	493	504	969	1,151	889	892	912	926
Foreign	168	196	201	292	273	226	247	274	311
Self-support	3,687	4,469	4,702	5,461	5,832	5,752	5,516	5,550	5,887
Agricultural sciences									
Total, all sources	9,519	9,420	9,323	8,721	8,852	8,611	8,588	8,538	8,552
Federal, total	1,654	1,510	1,346	1,502	1,600	1,660	1,692	1,727	1,643
Dept of Defense	8	15	17	28	17	30	32	13	18
Dept of HHS, total	37	23	16	15	12	28	31	28	36
NIH	35	17	15	15	11	21	30	17	31
Other HHS	2	6	1	0	1	7	1	11	5
NSF	71	61	66	93	69	57	49	47	59
USDA	NA	NA	NA	671	889	923	935	1,038	847
All other Federal	1,538	1,411	1,247	695	613	622	645	601	683
Institutional support	3,444	3,576	3,821	3,369	3,529	3,479	3,349	3,318	3,308
Other outside support, total	2,008	2,090	1,942	1,852	1,742	1,582	1,658	1,603	1,713
All other U.S.	865	943	906	990	891	797	900	969	1,084
Foreign	1,143	1,147	1,036	862	851	785	758	634	629
Self-support	2,413	2,244	2,214	1,998	1,981	1,890	1,889	1,890	1,888
Biological sciences									
Total, all sources	35,248	35,234	35,688	35,696	36,609	37,236	38,259	39,443	40,132
Federal, total	10,056	10,171	10,333	10,630	11,069	11,810	12,431	13,193	13,614
Dept of Defense	122	242	218	218	191	250	285	253	233
Dept of HHS, total	6,944	7,089	7,521	7,403	7,900	8,367	8,922	9,621	9,920
NIH	6,622	6,779	6,998	7,046	7,536	8,034	8,654	9,269	9,553
Other HHS	322	310	523	357	364	333	268	352	367
NSF	1,079	1,044	1,070	1,068	1,075	1,127	1,112	1,241	1,206
USDA	NA	NA	NA	809	805	950	974	941	960
All other Federal	1,911	1,796	1,803	1,332	1,098	1,116	1,138	1,137	1,295
Institutional support	15,797	15,869	16,403	16,367	17,006	17,103	17,400	17,969	18,399
Other outside support, total	3,055	3,172	3,088	3,244	3,050	3,167	3,451	3,494	3,620
All other U.S.	1,965	2,041	2,067	2,306	2,115	2,280	2,603	2,677	2,875
Foreign	1,090	1,131	1,021	938	935	887	848	817	745
Self-support	6,340	6,022	5,864	5,455	5,484	5,156	4,977	4,787	4,499
Psychology									
Total, all sources	21,894	22,150	21,600	21,334	21,995	22,629	23,376	24,661	24,930
Federal, total	2,283	1,980	1,942	1,958	1,894	1,932	2,036	2,086	2,254
Dept of Defense	114	135	133	117	132	154	146	116	139
Dept of HHS, total	1,300	1,004	1,024	1,051	944	1,003	1,120	1,172	1,260
NIH	693	584	629	618	585	626	759	709	705
Other HHS	607	420	395	433	359	377	361	463	555
NSF	206	190	206	235	231	246	232	233	232
USDA	NA	NA	NA	13	9	18	25	29	60
All other Federal	663	651	579	542	578	511	513	536	37
Institutional support	8,561	8,784	9,218	9,511	9,915	9,845	10,255	10,590	10,995
Other outside support, total	1,377	1,316	1,325	1,326	1,334	1,214	1,009	1,104	1,096
All other U.S.	1,304	1,250	1,258	1,271	1,273	1,160	952	1,055	1,045
Foreign	73	66	67	55	61	54	57	49	51
Self-support	9,673	10,070	9,115	8,539	8,852	9,638	10,076	10,872	10,585
Social sciences									
Total, all sources	41,255	40,420	38,877	39,408	39,552	40,353	41,235	42,649	45,634
Federal, total	3,049	2,987	2,744	2,756	2,468	2,467	2,525	2,657	2,797
Dept of Defense	252	305	303	169	121	135	148	173	189
Dept of HHS, total	439	351	313	311	296	315	317	301	314
NIH	207	212	209	194	200	206	207	201	210
Other HHS	232	139	104	117	96	109	110	100	104
NSF	345	336	300	335	365	363	382	424	459
USDA	NA	NA	NA	368	303	320	288	312	313
All other Federal	2,013	1,995	1,828	1,573	1,383	1,334	1,390	1,447	1,522
Institutional support	17,751	17,553	17,824	18,118	18,690	19,596	20,605	21,448	22,848
Other outside support, total	3,896	3,867	3,325	3,216	3,283	3,323	3,161	3,195	3,109
All other U.S.	1,660	1,670	1,507	1,540	1,619	1,795	1,658	1,750	1,650
Foreign	2,236	2,197	1,818	1,676	1,664	1,528	1,503	1,445	1,459
Self-support	16,559	16,013	14,984	15,318	15,111	14,967	14,944	15,349	16,880

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-18. Full-time science and engineering graduate students in doctorate-granting institutions by field and source of major support: 1982-90

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Field and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Engineering, total									
Total, all sources	48,692	52,684	53,963	54,807	59,013	60,325	61,479	62,533	64,169
Federal, total	11,005	11,903	11,502	11,183	12,308	13,047	13,943	14,205	14,744
Dept of Defense	3,419	3,985	3,780	3,758	4,109	4,568	4,942	4,771	4,577
Dept of HHS, total	501	575	544	520	532	529	528	529	594
NIH	403	477	466	455	449	515	555	644	674
Other HHS	98	98	78	65	83	114	73	85	120
NSF	2,567	2,673	2,685	2,681	3,124	3,477	3,799	3,752	3,844
USDA	NA	NA	NA	164	194	256	197	210	212
All other Federal	4,518	4,670	4,493	4,060	4,349	4,117	4,377	4,743	5,227
Institutional support	15,169	16,111	17,101	18,144	20,018	21,030	21,887	22,270	23,738
Other outside support, total	7,636	7,941	8,526	9,499	10,048	9,495	9,764	9,815	10,343
All other U.S.	5,237	5,619	6,357	7,366	7,928	7,573	7,900	7,890	8,310
Foreign	2,399	2,322	2,169	2,133	2,120	1,922	1,864	1,925	2,033
Self-support	14,882	16,729	16,834	15,981	16,639	16,753	16,585	16,243	16,344
Chemical engineering									
Total, all sources	5,524	5,790	5,656	5,494	5,542	5,632	5,330	5,245	5,420
Federal, total	1,282	1,361	1,314	1,289	1,394	1,501	1,452	1,474	1,557
Dept of Defense	76	99	92	90	101	150	145	130	98
Dept of HHS, total	52	53	67	53	69	78	83	87	122
NIH	39	41	60	52	67	70	79	87	120
Other HHS	13	12	7	1	2	8	4	0	2
NSF	547	602	606	622	652	692	683	652	681
USDA	NA	NA	NA	9	6	24	7	13	39
All other Federal	607	607	549	515	566	557	534	592	617
Institutional support	1,936	2,037	2,020	2,007	2,032	2,044	2,010	1,948	2,078
Other outside support, total	1,171	1,222	1,327	1,343	1,301	1,329	1,284	1,283	1,251
All other U.S.	1,010	1,042	1,187	1,198	1,177	1,203	1,172	1,190	1,154
Foreign	161	180	140	143	124	126	112	93	97
Self-support	1,135	1,170	995	855	815	758	584	540	534
Civil engineering									
Total, all sources	9,432	9,911	10,219	9,850	10,074	9,586	9,829	9,852	10,164
Federal, total	1,326	1,339	1,345	1,301	1,363	1,423	1,501	1,595	1,509
Dept of Defense	155	166	222	254	248	275	322	277	232
Dept of HHS, total	26	26	8	18	28	12	5	18	15
NIH	18	16	8	9	18	8	3	16	11
Other HHS	8	10	0	9	10	4	2	2	4
NSF	383	371	371	356	391	462	419	382	427
USDA	762	776	744	667	673	637	718	685	800
All other Federal	2,853	2,979	3,063	3,247	3,665	3,614	3,846	3,898	3,843
Institutional support	2,853	2,979	3,063	3,247	3,665	3,614	3,846	3,898	3,843
Other outside support, total	1,161	1,312	1,328	1,305	1,251	1,086	1,094	1,160	1,255
All other U.S.	685	795	851	875	812	692	681	698	830
Foreign	506	517	477	430	436	394	413	462	425
Self-support	4,092	4,281	4,483	3,997	3,795	3,463	3,388	3,399	3,557
Electrical engineering									
Total, all sources	11,277	12,854	13,461	14,358	15,832	16,457	17,012	17,597	17,879
Federal, total	2,645	2,932	2,730	2,373	2,776	3,017	3,467	3,504	3,637
Dept of Defense	1,410	1,683	1,539	1,290	1,411	1,569	1,655	1,634	1,528
Dept of HHS, total	86	103	95	81	80	58	99	93	129
NIH	59	77	75	62	57	56	99	73	85
Other HHS	27	26	20	19	23	32	25	20	44
NSF	612	638	598	555	753	846	1,133	1,078	1,121
USDA	NA	NA	NA	5	4	15	17	20	66
All other Federal	537	508	498	442	528	499	538	679	793
Institutional support	3,561	3,831	4,259	4,836	5,106	5,458	5,509	6,088	6,123
Other outside support, total	1,690	1,891	2,169	2,357	2,064	2,436	2,576	2,775	2,913
All other U.S.	1,283	1,427	1,666	1,816	2,493	2,132	2,591	2,512	2,390
Foreign	407	464	503	541	571	504	585	463	523
Self-support	3,381	4,200	4,303	4,792	4,886	5,346	5,360	5,230	5,206
Industrial engineering									
Total, all sources	3,590	3,142	3,276	3,355	3,715	4,067	4,177	4,491	4,543
Federal, total	350	417	402	385	376	466	553	582	637
Dept of Defense	140	162	129	184	148	211	280	286	305
Dept of HHS, total	53	50	49	45	45	39	39	59	60
NIH	23	31	25	30	14	23	22	25	27
Other HHS	30	19	24	15	31	21	17	34	33
NSF	36	41	56	41	79	97	114	124	127
USDA	NA	NA	NA	1	1	1	1	0	1
All other Federal	121	184	168	114	103	113	119	113	144
Institutional support	1,183	1,008	1,095	1,184	1,296	1,451	1,429	1,610	1,656
Other outside support, total	420	308	367	414	440	446	490	507	558
All other U.S.	188	172	256	310	355	369	392	385	405
Foreign	232	136	111	104	85	77	98	122	153
Self-support	1,637	1,409	1,412	1,372	1,603	1,704	1,705	1,792	1,692

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-18. Full-time science and engineering graduate students in doctorate-granting institutions
by field and source of major support: 1982-90

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Field and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Mechanical engineering									
Total, all sources	7,128	8,178	8,511	8,683	9,599	9,966	10,198	10,147	10,505
Federal, total	1,513	1,558	1,633	1,888	2,042	2,258	2,413	2,461	2,527
Dept of Defense	289	392	379	538	633	770	809	827	739
Dept of HHS, total	65	73	64	89	61	84	70	61	73
NIH	54	65	58	72	52	67	65	54	72
Other HHS	11	8	6	17	9	17	5	7	1
NSF	305	347	384	435	477	591	661	632	641
USDA	NA	NA	NA	19	10	15	16	28	26
All other Federal	754	746	806	807	861	798	857	913	1,048
Institutional support	2,426	2,824	3,060	3,070	3,637	3,787	3,713	3,791	3,950
Other outside support, total	1,099	1,157	1,250	1,595	1,489	1,452	1,513	1,536	1,635
All other U.S.	855	865	953	1,351	1,247	1,273	1,305	1,331	1,376
Foreign	244	292	297	244	242	189	208	205	259
Self-support	2,190	2,639	2,568	2,130	2,431	2,459	2,559	2,359	2,393
Other engineering									
Total, all sources	11,741	12,809	12,840	13,067	14,251	14,617	14,933	15,201	15,658
Federal, total	3,989	4,296	4,078	3,947	4,357	4,382	4,557	4,789	4,877
Dept of Defense	1,349	1,503	1,419	1,402	1,568	1,593	1,731	1,617	1,675
Dept of HHS, total	219	270	261	234	249	323	307	411	395
NIH	210	247	240	230	241	291	287	389	359
Other HHS	9	23	21	4	8	32	20	22	36
NSF	684	674	670	672	772	789	789	884	857
USDA	NA	NA	NA	124	150	164	119	116	125
All other Federal	1,737	1,849	1,728	1,515	1,618	1,513	1,611	1,761	1,825
Institutional support	3,210	3,432	3,604	3,800	4,282	4,676	4,680	4,935	5,088
Other outside support, total	2,095	2,051	2,085	2,485	2,503	2,536	2,707	2,554	2,731
All other U.S.	1,246	1,318	1,444	1,816	1,844	1,904	2,059	1,974	2,155
Foreign	849	733	641	669	659	632	648	580	576
Self-support	2,447	3,030	3,073	2,835	3,109	3,023	2,989	2,923	2,962
Total, health fields									
Total, all sources	20,906	20,458	20,708	21,149	21,183	21,669	22,534	23,875	25,249
Federal, total	6,121	5,531	5,560	5,909	5,789	6,128	6,043	6,370	6,621
Dept of Defense	191	253	265	271	224	233	233	430	443
Dept of HHS, total	4,693	4,100	4,066	4,471	4,365	4,374	4,401	4,435	4,725
NIH	1,230	1,177	1,024	1,045	1,116	1,657	1,394	1,492	1,606
Other HHS	3,463	2,923	3,042	3,426	3,249	2,717	3,007	2,943	3,119
NSF	34	30	41	41	41	47	46	50	55
USDA	NA	NA	NA	21	42	48	31	46	58
All other Federal	1,203	1,148	1,188	1,105	1,117	1,426	1,332	1,409	1,340
Institutional support	4,591	4,620	5,014	5,292	5,522	5,534	5,885	6,488	6,849
Other outside support, total	1,278	1,560	1,597	1,630	1,532	1,490	1,266	1,408	1,397
All other U.S.	843	1,087	1,105	1,105	1,004	978	876	929	930
Foreign	435	473	492	525	528	512	390	479	467
Self-support	8,916	8,747	8,537	8,318	8,340	8,517	9,340	9,609	10,382

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-19. Full-time science and engineering graduate students in doctorate-granting institutions by field and type of major support: 1982-90

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Field and type of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields									
Total, all types	229,860	235,957	237,293	241,458	250,251	254,556	259,596	266,937	275,262
Fellowships	20,527	20,988	21,177	22,271	22,651	21,762	22,168	23,245	25,033
Traineeships	14,539	13,148	12,956	13,186	13,043	13,537	13,895	14,172	14,786
Research assistantships	51,512	53,713	56,403	57,665	64,934	69,000	73,164	77,512	79,087
Teaching assistantships	52,816	57,602	58,805	59,293	60,416	60,755	61,090	62,198	62,609
Other types of support	87,766	90,506	87,952	86,537	89,207	89,502	89,279	89,810	93,747
Sciences, total									
Total, all types	160,262	162,815	162,622	165,502	170,055	172,562	175,583	180,529	185,844
Fellowships	14,519	14,798	14,947	15,834	16,244	15,600	16,318	16,918	18,214
Traineeships	8,128	7,800	7,651	7,665	7,688	8,077	8,351	8,606	8,927
Research assistantships	35,427	36,643	38,263	39,948	42,302	44,453	47,143	50,108	50,725
Teaching assistantships	44,811	45,717	46,317	46,911	47,259	47,682	48,064	49,158	49,666
Other types of support	57,377	57,857	55,244	55,144	56,762	56,750	55,707	55,739	58,312
Physical sciences									
Total, all types	23,339	24,502	25,147	25,938	27,069	27,652	27,778	28,429	28,845
Fellowships	1,878	1,900	2,069	1,898	1,862	1,792	1,776	1,950	2,267
Traineeships	407	388	344	403	514	534	1,495	595	687
Research assistantships	8,686	9,060	9,517	10,174	10,896	11,455	11,931	12,272	11,958
Teaching assistantships	10,359	10,904	10,977	11,119	11,324	11,413	11,255	11,436	11,566
Other types of support	2,009	2,250	2,240	2,344	2,473	2,458	2,321	2,176	2,367
Earth, atmospheric, and ocean sciences									
Total, all types	10,918	11,497	11,266	10,871	10,862	10,097	9,837	9,715	9,848
Fellowships	882	871	947	966	835	729	761	752	775
Traineeships	258	259	160	165	139	167	147	111	104
Research assistantships	3,265	3,480	3,506	3,668	3,786	3,619	3,835	4,072	4,059
Teaching assistantships	2,737	2,752	2,743	2,533	2,539	2,397	2,446	2,366	2,294
Other types of support	3,776	4,135	3,910	3,539	3,563	3,185	2,648	2,414	2,616
Mathematical sciences									
Total, all types	10,178	10,316	10,613	11,160	11,727	12,345	12,809	13,024	13,202
Fellowships	678	685	752	851	899	841	921	985	1,095
Traineeships	110	115	149	141	120	150	188	211	189
Research assistantships	823	776	846	969	1,012	1,072	1,175	1,245	1,341
Teaching assistantships	5,817	6,140	6,325	6,545	6,897	7,207	7,344	7,561	7,505
Other types of support	2,750	2,600	2,541	2,654	2,799	3,065	3,181	3,022	3,072
Computer sciences									
Total, all types	7,911	9,276	10,108	12,374	13,389	13,639	13,701	14,070	14,701
Fellowships	393	474	543	757	805	764	771	797	891
Traineeships	70	50	69	50	88	73	103	126	128
Research assistantships	1,151	1,367	1,582	2,017	2,284	2,782	2,971	3,244	3,192
Teaching assistantships	1,957	2,312	2,646	3,084	3,109	3,258	3,297	3,307	3,448
Other types of support	4,340	5,073	5,268	6,466	7,103	6,762	6,559	6,596	7,042
Agricultural sciences									
Total, all types	9,519	9,420	9,323	8,721	8,852	8,611	8,588	8,538	8,552
Fellowships	555	536	534	542	521	427	384	449	492
Traineeships	224	223	132	115	115	116	120	86	61
Research assistantships	4,558	4,509	4,608	4,306	4,590	4,492	4,399	4,555	4,517
Teaching assistantships	883	879	837	824	752	730	832	752	775
Other types of support	3,299	3,273	3,212	2,934	2,874	2,846	2,853	2,696	2,707
Biological sciences									
Total, all types	35,248	35,234	35,688	35,696	36,609	37,236	38,259	39,443	40,132
Fellowships	3,517	3,604	3,672	3,966	4,251	4,293	4,258	4,527	4,718
Traineeships	4,333	4,342	4,323	4,228	4,186	4,426	4,507	4,670	4,928
Research assistantships	9,776	10,023	10,797	11,133	11,977	12,838	14,004	15,133	15,717
Teaching assistantships	9,152	8,972	8,918	8,913	8,605	8,319	8,235	8,482	8,322
Other types of support	8,470	8,293	7,978	7,466	7,590	7,360	7,165	6,631	6,447
Psychology									
Total, all types	21,894	22,150	21,600	21,334	21,995	22,629	23,376	24,661	24,930
Fellowships	1,169	1,212	1,226	1,214	1,344	1,354	1,426	1,399	1,583
Traineeships	1,747	1,334	1,408	1,548	1,257	1,197	1,171	1,119	1,083
Research assistantships	2,522	2,669	2,759	2,864	2,884	2,977	3,469	3,585	3,749
Teaching assistantships	4,541	4,633	4,660	4,797	4,986	5,004	5,141	5,357	5,401
Other types of support	11,915	12,302	11,547	10,911	11,524	12,097	12,169	13,201	13,114
Social sciences									
Total, all types	41,255	40,420	38,877	39,408	39,552	40,353	41,235	42,649	45,634
Fellowships	5,447	5,516	5,204	5,640	5,727	5,390	6,021	6,059	6,393
Traineeships	979	1,089	1,066	1,015	1,069	1,414	1,530	1,688	1,747
Research assistantships	4,646	4,759	4,848	4,827	4,873	5,218	5,359	6,002	6,192
Teaching assistantships	9,365	9,125	9,211	9,096	9,047	9,354	9,514	9,897	10,355
Other types of support	20,818	19,931	18,548	18,830	18,836	18,977	18,811	19,003	20,947

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-19. Full-time science and engineering graduate students in doctorate-granting institutions by field and type of major support: 1982-90

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Field and type of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Engineering total									
Total, all types	48,692	52,684	53,963	54,807	59,013	60,325	61,479	62,533	64,169
Fellowships	4,625	4,750	4,796	4,730	4,864	4,590	4,418	4,632	4,064
Traineeships	787	745	720	755	829	894	917	977	1,009
Research assistantships	14,595	15,539	16,184	17,826	20,356	22,005	23,277	24,332	25,148
Teaching assistantships	8,955	9,861	10,324	10,546	10,915	10,910	10,885	10,803	10,665
Other types of support	19,730	21,789	21,939	20,950	22,049	21,926	21,982	21,789	22,283
Chemical engineering									
Total, all types	5,524	5,790	5,656	5,494	5,542	5,632	5,330	5,245	5,420
Fellowships	861	872	894	844	818	798	703	646	741
Traineeships	160	141	131	94	108	124	105	145	149
Research assistantships	2,097	2,253	2,325	2,454	2,581	2,745	2,813	2,810	2,841
Teaching assistantships	1,033	1,120	1,113	1,057	993	990	949	896	938
Other types of support	1,373	1,404	1,193	1,045	1,042	975	760	748	751
Civil engineering									
Total, all types	9,432	9,911	10,219	9,850	10,074	9,586	9,829	9,852	10,164
Fellowships	693	671	568	703	673	518	578	622	612
Traineeships	101	113	125	142	188	208	194	209	212
Research assistantships	2,104	2,334	2,478	2,467	2,845	2,905	3,058	3,016	3,108
Teaching assistantships	1,479	1,482	1,610	1,646	1,731	1,730	1,711	1,670	1,612
Other types of support	5,055	5,311	5,438	4,892	4,637	4,225	4,288	4,335	4,620
Electrical engineering									
Total, all types	11,277	12,854	13,461	14,358	15,832	16,457	17,012	17,597	17,879
Fellowships	1,042	1,056	1,122	1,134	1,171	1,054	1,031	1,176	1,227
Traineeships	117	119	113	148	164	122	138	141	160
Research assistantships	2,933	3,180	3,129	3,643	4,411	5,053	5,655	6,031	6,187
Teaching assistantships	2,539	2,972	3,211	3,238	3,429	3,289	3,264	3,351	3,328
Other types of support	4,646	5,527	5,886	6,195	6,657	6,939	6,924	6,898	6,977
Industrial engineering									
Total, all types	3,590	3,142	3,276	3,355	3,715	4,067	4,177	4,491	4,543
Fellowships	263	179	201	195	196	195	174	206	259
Traineeships	64	34	14	24	17	48	44	43	36
Research assistantships	535	421	534	556	691	906	1,004	1,109	1,125
Teaching assistantships	712	644	693	821	850	788	745	812	841
Other types of support	2,016	1,864	1,834	1,759	1,961	2,130	2,210	2,321	2,282
Mechanical engineering									
Total, all types	7,128	8,178	8,511	8,683	9,599	9,966	10,198	10,147	10,505
Fellowships	596	653	669	622	666	625	545	565	706
Traineeships	110	84	92	129	137	148	179	187	178
Research assistantships	2,200	2,347	2,632	3,234	3,661	3,926	4,053	4,228	4,300
Teaching assistantships	1,639	1,971	2,032	2,037	2,134	2,193	2,233	2,200	2,202
Other types of support	2,583	3,123	3,086	2,641	3,001	3,074	3,188	2,967	3,119
Other engineering									
Total, all types	11,741	12,809	12,840	13,067	14,251	14,617	14,933	15,201	15,658
Fellowships	1,170	1,319	1,342	1,232	1,340	1,400	1,387	1,417	1,519
Traineeships	235	254	245	218	215	244	257	252	274
Research assistantships	4,726	5,004	5,086	5,452	6,167	6,470	6,694	7,138	7,587
Teaching assistantships	1,553	1,672	1,665	1,747	1,778	1,920	1,983	1,974	1,744
Other types of support	4,057	4,560	4,502	4,418	4,751	4,583	4,612	4,520	4,534
Total, health fields									
Total, all types	20,906	20,458	20,708	21,149	21,183	21,669	22,534	23,875	25,249
Fellowships	1,383	1,440	1,434	1,707	1,543	1,572	1,432	1,695	1,755
Traineeships	534	4,603	4,585	4,766	4,726	4,566	4,627	4,589	4,850
Research assistantships	1,490	1,531	1,756	2,097	2,276	2,542	2,744	3,072	3,214
Teaching assistantships	2,050	2,024	2,164	2,136	2,242	2,163	2,141	2,237	2,278
Other types of support	10,659	10,860	10,769	10,443	10,396	10,826	11,590	12,282	13,152

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-20. Full-time science and engineering graduate students in doctorate-granting institutions by type and source of major support: 1982-90

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Type and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all types									
Total, all sources	229,860	235,957	237,293	241,458	250,251	254,556	259,596	266,937	275,262
Federal, total	46,395	46,755	46,759	48,092	50,386	52,620	54,535	56,706	58,516
Dept of Defense	5,842	6,871	7,020	7,214	7,836	8,689	9,424	9,122	8,702
Dept of HHS, total	15,562	14,751	14,865	15,615	16,147	16,935	17,684	18,496	19,303
NIH	10,700	10,718	10,885	11,037	11,809	12,874	13,680	14,390	14,939
Other HHS	4,862	4,033	3,980	4,578	4,338	4,061	4,004	4,106	4,364
NSF	9,203	9,465	9,801	10,148	10,806	11,209	11,594	11,835	11,949
USDA	NA	NA	NA	2,131	2,312	2,625	2,557	2,690	2,661
All other Federal	15,788	15,668	15,073	12,984	13,285	13,162	13,276	14,563	15,901
Institutional support	91,401	93,945	97,714	100,154	105,370	108,294	110,913	115,006	118,349
Other outside support, total	23,395	24,086	24,147	25,992	26,069	26,743	25,382	26,020	26,020
All other U.S.	14,692	15,453	16,235	18,437	18,644	17,926	18,423	18,930	19,568
Foreign	8,703	8,633	7,912	7,555	7,425	8,817	6,962	6,452	6,452
Self-support	68,669	71,171	68,673	67,220	68,426	68,899	69,123	69,843	72,377
Fellowships									
Total, all sources	20,527	20,988	21,177	22,271	22,651	21,762	22,168	23,245	25,033
Federal, total	4,026	3,983	3,980	4,307	4,469	4,349	4,486	5,090	6,247
Dept of Defense	201	257	237	260	293	351	453	416	577
Dept of HHS, total	834	756	772	870	815	857	875	829	1,072
NIH	624	555	593	651	645	694	699	716	881
Other HHS	210	201	179	219	168	163	176	213	191
NSF	1,300	1,303	1,340	1,593	1,509	1,479	1,584	1,776	2,093
USDA	NA	NA	NA	166	166	145	90	102	107
All other Federal	1,691	1,667	1,631	1,637	1,688	1,517	1,584	1,867	2,398
Institutional support	9,222	9,707	10,128	11,067	11,528	11,406	11,777	12,297	12,958
Other outside support, total	7,579	7,298	7,069	6,897	6,654	6,007	5,905	5,858	5,828
All other U.S.	3,596	3,752	3,944	4,100	3,975	3,670	3,429	3,545	3,631
Foreign	3,683	3,546	3,125	2,797	2,679	2,337	2,476	2,313	2,197
Self-support	0	0	0	0	0	0	0	0	0
Traineeships									
Total, all sources	14,239	13,148	12,956	13,186	13,043	13,537	13,895	14,172	14,786
Federal, total	9,820	8,934	8,656	8,653	8,433	8,656	8,421	8,557	9,090
Dept of Defense	33	79	61	49	79	136	136	118	120
Dept of HHS, total	8,551	7,586	7,365	7,443	7,221	7,136	7,040	6,935	7,379
NIH	4,609	4,475	4,274	4,055	3,919	4,220	4,103	4,085	4,359
Other HHS	3,942	3,111	3,091	3,388	3,302	2,916	2,937	2,850	3,020
NSF	72	47	42	56	27	82	68	89	54
USDA	NA	NA	NA	71	57	83	44	45	57
All other Federal	1,164	1,222	1,207	1,034	1,049	1,219	1,133	1,370	1,480
Institutional support	3,321	3,144	3,328	3,579	3,710	4,011	4,543	4,710	4,900
Other outside support, total	1,098	1,070	953	954	900	870	931	905	796
All other U.S.	802	721	690	662	697	625	692	632	559
Foreign	296	342	263	292	203	245	239	273	237
Self-support	0	0	0	0	0	0	0	0	0
Research assistantships									
Total, all sources	51,512	53,713	56,403	59,871	64,934	69,000	73,164	77,512	79,087
Federal, total	28,002	28,846	29,131	30,135	32,482	34,721	36,461	38,096	37,984
Dept of Defense	3,458	3,919	4,050	4,167	4,627	5,581	5,959	5,823	5,252
Dept of HHS, total	5,709	5,909	6,263	6,807	7,626	8,387	9,268	10,146	10,362
NIH	5,205	5,365	5,682	6,058	6,922	7,563	8,486	9,215	9,334
Other HHS	504	544	581	749	704	824	782	931	1,028
NSF	7,722	8,028	8,249	8,531	9,069	9,464	9,793	9,817	9,641
USDA	NA	NA	NA	1,785	1,942	2,282	2,273	2,420	2,373
All other Federal	11,113	10,990	10,569	8,845	9,218	9,007	9,168	9,890	10,356
Institutional support	16,719	17,122	18,739	19,603	22,234	24,120	25,525	27,768	28,963
Other outside support, total	6,791	7,745	8,533	10,133	10,218	10,159	11,178	11,648	12,140
All other U.S.	6,210	7,187	7,934	9,588	9,632	9,554	10,562	10,990	11,419
Foreign	581	558	599	545	586	605	616	658	721
Self-support	0	0	0	0	0	0	0	0	0
Teaching assistantships									
Total, all sources	55,816	57,602	58,805	59,593	60,416	60,755	61,090	62,198	62,609
Federal, total	380	469	378	537	458	433	431	452	558
Dept of Defense	0	0	0	0	0	0	0	0	0
Dept of HHS, total	100	111	71	96	110	153	135	140	118
NIH	49	74	44	57	82	125	110	125	94
Other HHS	51	37	27	39	28	28	25	15	24
NSF	24	25	24	43	73	26	53	61	85
USDA	NA	NA	NA	33	33	17	43	33	44
All other Federal	256	333	283	358	242	237	200	218	311
Institutional support	55,009	56,766	58,036	58,571	59,467	59,884	60,215	61,230	61,546
Other outside support, total	427	367	391	485	491	438	444	516	505
All other U.S.	427	367	391	485	491	438	444	516	505
Foreign	0	0	0	0	0	0	0	0	0
Self-support	0	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table C-20. Full-time science and engineering graduate students in doctorate-granting institutions
by type and source of major support: 1982-90

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Type and source of major support	1982	1983	1984	1985	1986	1987	1988	1989	1990
Other types of support									
Total, all sources	87,766	90,506	87,952	86,537	89,207	89,502	89,279	89,810	93,747
Federal, total	4,167	4,523	4,595	4,560	4,544	4,461	4,736	4,511	4,637
Dept of Defense	2,150	2,616	2,672	2,738	2,837	2,621	2,976	2,765	2,753
Dept of HHS, total	368	389	394	399	377	402	366	346	372
NIH	213	249	292	236	241	272	282	249	271
Other HHS	155	140	102	163	136	130	84	97	101
NSF	85	62	146	125	128	158	96	92	76
USDA	NA	NA	NA	88	114	98	107	90	80
All other Federal	1,564	1,456	1,383	1,110	1,088	1,182	1,191	1,218	1,356
Institutional support	7,130	7,206	7,483	7,334	8,431	8,873	8,853	9,001	9,982
Other outside support, total	7,800	7,606	7,201	7,523	7,806	7,269	6,567	6,455	6,751
All other U.S.	3,657	3,426	3,276	3,602	3,849	3,639	3,296	3,247	3,454
Foreign	4,143	4,180	3,925	3,921	3,957	3,630	3,271	3,208	3,297
Self-support	68,669	71,171	68,673	67,220	68,426	68,899	69,123	69,843	72,377

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-21. Full-time science and engineering graduate students with U.S. citizenship in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1994	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	174,739	176,515	176,435	175,808	177,799	178,530	178,764	183,040	188,099
Total, science/engineering fields	155,988	158,297	157,923	157,101	159,217	159,535	159,194	162,336	166,273
Engineering, total	27,877	30,445	31,360	31,311	32,610	32,947	32,679	33,179	33,841
Aerospace	944	1,078	1,104	1,249	1,332	1,547	1,491	1,743	1,884
Agricultural	398	425	446	414	457	478	406	361	332
Biomedical	709	817	886	924	1,001	976	971	1,007	1,177
Chemical	2,033	2,589	2,560	3,205	3,387	3,361	2,954	2,664	2,690
Civil	5,492	7,654	7,796	7,401	8,393	8,051	8,099	8,038	8,397
Electrical	6,268	7,191	7,679	7,943	8,372	8,643	8,960	9,360	9,335
Engineering science	816	846	772	780	838	777	801	693	773
Industrial	2,060	1,834	1,867	1,803	1,980	2,094	2,174	2,338	2,305
Mechanical	2,684	2,247	2,509	2,778	2,126	2,409	2,195	2,465	2,617
Metallurgical/materials	1,280	1,520	1,659	1,794	1,824	1,786	1,764	1,851	1,992
Mining	234	251	262	237	230	214	173	138	117
Nuclear	569	591	606	600	614	594	644	628	577
Petroleum	214	321	318	311	290	310	226	198	151
Engineering, n.e.c.	2,006	2,081	1,896	1,772	1,766	1,727	1,821	1,695	1,494
Sciences, total	128,111	127,852	126,563	125,790	126,607	126,588	126,515	129,157	132,432
Physical sciences	17,047	17,458	17,719	17,685	17,778	17,856	17,529	17,560	17,501
Astronomy	488	480	479	485	494	509	545	604	603
Chemistry	10,675	11,092	11,076	11,109	11,141	10,930	10,392	10,244	10,064
Physics	5,836	5,836	6,044	5,974	6,039	6,280	6,310	6,637	6,739
Physical sciences, n.e.c.	48	50	120	117	104	137	82	75	95
Earth, atmospheric, and ocean sciences	9,313	9,842	9,716	9,236	9,000	8,157	7,695	7,419	7,432
Atmospheric sciences	585	598	609	672	648	603	595	569	574
Geosciences	6,382	7,000	6,913	6,435	6,106	5,325	4,886	4,599	4,514
Oceanography	1,213	1,171	1,221	1,208	1,263	1,247	1,133	1,230	1,281
Earth, atmos., and ocean sci., n.e.c.	1,133	1,073	973	921	983	982	1,075	1,101	1,373
Mathematical sciences	6,457	6,236	6,266	6,509	6,776	7,052	7,222	7,220	7,625
Computer sciences	5,139	5,763	6,109	7,481	7,943	7,929	7,671	7,710	7,766
Agricultural sciences	7,237	7,046	7,019	6,436	6,372	6,064	6,045	6,055	5,987
Biological sciences	30,371	29,889	30,065	29,492	29,560	29,318	29,325	29,485	29,498
Anatomy	849	847	878	800	772	776	793	784	713
Biochemistry	3,178	3,214	3,402	3,502	3,557	3,413	3,426	3,346	3,300
Biology	6,891	6,680	6,557	6,206	6,198	6,187	6,245	6,516	6,428
Biometry/epidemiology	769	720	628	823	832	926	939	938	916
Biophysics	353	357	339	288	329	343	365	402	407
Botany	2,554	2,411	2,357	2,191	2,108	1,915	1,772	1,678	1,543
Cell biology	1,007	1,010	1,062	1,217	1,380	1,553	1,618	1,700	1,973
Ecology	825	758	778	764	745	675	700	738	699
Entomology/parasitology	1,113	1,065	1,040	904	855	767	775	718	714
Genetics	766	777	811	851	927	926	886	944	985
Microbiology	3,068	3,176	3,271	3,220	3,133	3,196	3,350	3,241	3,222
Nutrition	2,212	2,080	2,037	2,023	2,062	1,963	1,813	1,783	1,781
Pathology	842	857	909	840	862	870	869	853	820
Pharmacology	1,696	1,758	1,742	1,800	1,703	1,608	1,611	1,693	1,707
Physiology	1,617	1,554	1,714	1,721	1,687	1,646	1,561	1,507	1,535
Zoology	1,989	1,885	1,700	1,521	1,520	1,552	1,447	1,498	1,395
Biosciences, n.e.c.	642	740	840	821	890	1,002	1,155	1,146	1,360
Psychology	20,958	21,214	20,676	20,302	20,964	21,539	22,165	23,415	23,581
Social sciences	31,589	30,404	28,993	28,649	28,214	28,673	28,863	30,293	33,042
Agricultural economics	1,266	1,269	1,249	1,206	1,191	1,109	1,030	991	1,024
Anthropology	3,648	3,470	3,516	3,353	3,461	3,446	3,240	3,682	3,973
Economics (except agricultural)	3,722	3,483	3,072	4,812	4,742	4,632	4,667	4,666	4,599
Geography	1,612	1,657	1,638	1,601	1,571	1,663	1,591	1,710	1,769
History and philosophy of science	188	189	201	176	198	226	221	258	296
Linguistics	1,436	1,479	1,435	1,368	1,366	1,264	1,281	1,409	1,490
Political science	9,845	9,432	8,778	9,145	9,095	8,939	9,206	10,063	11,291
Sociology	3,684	3,492	3,287	3,196	3,147	3,664	3,445	3,640	4,009
Sociology/anthropology	480	469	451	406	427	404	417	474	602
Social sciences, n.e.c.	3,708	3,464	3,266	3,386	3,016	3,326	3,465	3,600	3,989
Total, health fields	18,751	18,218	18,512	18,707	18,582	18,995	19,570	20,704	21,826
Dentistry	598	579	638	590	646	764	774	689	658
Neurology	176	217	270	288	322	401	477	580	644
Nursing	5,999	5,577	5,522	5,385	5,226	5,193	5,169	5,158	5,265
Pharmaceutical sciences	1,115	1,076	1,067	1,083	1,082	1,070	1,031	1,143	1,203
Preventive medicine/community health	3,334	3,213	3,258	3,305	3,238	3,305	3,314	3,307	3,480
Speech pathology/audiology	4,257	4,140	4,132	4,274	4,109	3,804	4,079	4,311	4,329
Veterinary sciences	271	239	295	367	351	422	432	464	501
Clinical medicine, n.e.c.	847	844	873	934	910	963	1,009	1,085	1,138
Health related, n.e.c.	2,154	2,333	2,457	2,481	2,698	3,073	3,275	3,967	4,608

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-22. Full-time science and engineering graduate students without U.S. citizenship in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1994	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	55,121	59,442	60,858	65,650	72,452	76,026	80,832	83,897	87,163
Total, science/engineering fields	52,966	57,202	58,662	63,208	69,851	73,352	77,868	80,726	83,740
Engineering, total	20,815	22,239	22,603	23,496	26,403	27,378	28,800	29,354	30,328
Aerospace	575	747	736	731	806	808	1,026	999	1,062
Agricultural	341	341	327	353	424	446	473	490	461
Biomedical	199	195	220	193	279	376	431	565	584
Chemical	2,321	2,201	2,096	2,189	2,155	2,291	2,376	2,581	2,730
Civil	3,940	4,257	4,423	4,449	4,681	4,535	4,730	4,814	4,767
Electrical	5,009	5,663	5,782	6,415	7,460	7,814	8,052	8,237	8,544
Engineering science	436	493	484	466	589	592	620	556	548
Industrial	1,530	1,308	1,409	1,552	1,735	1,973	2,003	2,153	2,238
Mechanical	3,444	3,931	4,002	3,905	4,473	4,557	4,003	4,682	4,888
Metallurgical/materials	1,173	1,166	1,204	1,276	1,493	1,584	1,634	1,806	1,832
Mining	117	153	141	134	189	192	206	174	189
Nuclear	473	461	412	430	445	450	461	484	503
Petroleum	256	286	284	240	261	309	344	296	324
Engineering, n.e.c.	1,001	1,037	1,083	1,163	1,413	1,451	1,441	1,517	1,658
Sciences, total	32,151	34,963	36,059	39,712	43,448	45,974	49,068	51,372	53,412
Physical sciences	6,292	7,044	7,428	8,253	9,291	9,796	10,249	10,869	11,344
Astronomy	102	105	117	150	160	172	160	158	187
Chemistry	3,080	3,403	3,539	3,958	4,396	4,805	5,190	5,566	5,924
Physics	3,105	3,525	3,756	4,129	4,714	4,798	4,863	5,124	5,192
Physical sciences, n.e.c.	5	11	16	16	21	21	36	21	41
Earth, atmospheric, and ocean sciences	1,605	1,655	1,550	1,635	1,862	1,940	2,142	2,296	2,416
Atmospheric sciences	186	180	161	195	206	219	230	234	264
Geosciences	903	908	884	915	1,004	1,086	1,174	1,269	1,360
Oceanography	338	376	297	312	389	356	437	515	517
Earth, atmos., and ocean sci., n.e.c.	178	191	208	213	263	279	301	278	275
Mathematical sciences	3,721	4,080	4,347	4,651	4,951	5,293	5,587	5,804	5,577
Computer sciences	2,772	3,513	3,999	4,893	5,446	5,710	6,030	6,360	6,935
Agricultural sciences	2,282	2,374	2,304	2,285	2,480	2,547	2,543	2,483	2,565
Biological sciences	4,877	5,345	5,623	6,204	7,049	7,918	8,934	9,958	10,634
Anatomy	88	74	58	91	121	153	180	215	209
Biochemistry	654	767	843	969	1,092	1,212	1,333	1,523	1,621
Biology	748	839	978	988	1,150	1,270	1,426	1,598	1,681
Biometry/epidemiology	150	157	123	173	223	271	305	310	348
Biophysics	70	80	80	93	120	125	179	208	198
Botany	589	602	612	623	736	757	877	877	885
Cell biology	103	128	147	189	275	333	405	477	542
Ecology	80	77	87	100	99	109	122	134	185
Entomology/parasitology	227	240	224	234	252	295	286	291	301
Genetics	111	142	131	163	202	241	260	296	290
Microbiology	431	504	532	647	720	804	946	1,069	1,129
Nutrition	821	802	858	893	866	929	945	954	1,032
Pathology	172	206	168	189	203	250	248	292	296
Pharmacology	243	244	255	264	333	396	459	528	587
Physiology	188	212	255	265	318	350	447	550	581
Zoology	129	140	144	178	188	223	261	268	282
Biosciences, n.e.c.	73	131	128	145	151	200	255	368	467
Psychology	936	936	924	1,032	1,031	1,090	1,211	1,246	1,349
Social sciences	9,666	10,016	9,884	10,759	11,338	11,680	12,372	12,356	12,592
Agricultural economics	690	725	726	740	724	780	848	894	910
Anthropology	379	396	384	442	535	581	654	654	685
Economics (except agricultural)	3,365	3,376	3,406	3,802	3,926	4,077	4,320	4,391	4,474
Geography	375	368	359	349	371	411	391	405	422
History and philosophy of science	35	40	42	51	39	41	45	45	44
Linguistics	709	837	829	935	941	924	957	980	1,046
Political science	2,314	2,436	2,282	2,403	2,729	2,689	2,773	2,537	2,539
Sociology	964	1,074	1,037	1,165	1,200	1,279	1,381	1,340	1,327
Sociology/anthropology	132	127	121	128	123	123	121	133	142
Social sciences, n.e.c.	703	637	698	744	750	841	887	977	1,003
Total, health fields	2,155	2,240	2,196	2,442	2,601	2,674	2,964	3,171	3,423
Dentistry	129	122	130	155	179	145	156	170	182
Neurology	12	27	29	34	48	69	96	102	134
Nursing	197	149	160	151	153	157	164	160	179
Pharmaceutical sciences	587	619	630	633	681	676	797	893	934
Preventive medicine/community health	695	713	657	785	794	807	859	864	962
Speech pathology/audiology	179	222	187	201	235	210	236	243	267
Veterinary sciences	85	98	107	124	135	153	157	185	197
Clinical medicine, n.e.c.	135	150	106	178	174	197	215	229	246
Health related, n.e.c.	136	140	190	181	202	260	284	325	322

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-23. Part-time science and engineering graduate students in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	106,220	106,999	108,971	114,417	116,676	117,545	117,764	117,077	123,143
Total, science/engineering fields	89,832	90,199	90,965	95,988	96,732	97,700	97,059	95,504	100,000
Engineering, total	29,488	32,625	33,137	35,415	36,759	36,644	35,204	34,345	36,084
Aerospace	414	551	573	646	753	731	764	750	969
Agricultural	136	203	181	174	173	139	160	180	146
Biomedical	156	173	182	200	201	261	274	281	306
Chemical	1,405	1,562	1,540	1,521	1,349	1,358	1,202	1,116	1,198
Civil	4,101	4,503	4,518	4,571	4,398	4,265	4,267	4,284	4,609
Electrical	9,305	10,691	11,138	12,017	12,108	12,571	12,766	12,616	12,574
Engineering science	588	642	644	592	701	758	768	809	1,208
Industrial	5,418	5,652	5,664	6,729	7,353	7,620	6,642	5,833	5,745
Mechanical	3,639	3,911	4,455	4,563	5,008	5,124	4,852	4,790	5,006
Metallurgical/materials	577	652	709	748	722	817	766	767	860
Mining	73	94	74	92	68	78	71	76	103
Nuclear	259	151	216	190	206	235	198	211	198
Petroleum	110	117	130	201	175	171	141	157	181
Engineering, n.e.c.	3,307	3,723	3,113	3,171	3,544	2,536	2,333	2,475	2,981
Sciences, total	60,344	57,574	57,828	60,573	59,973	61,056	61,855	61,159	63,916
Physical sciences	3,172	3,245	3,263	3,374	3,474	3,315	3,434	3,378	3,659
Astronomy	42	33	43	36	35	41	26	27	21
Chemistry	2,038	2,053	1,984	2,085	2,065	1,932	1,900	1,903	2,071
Physics	1,074	1,151	1,185	1,194	1,261	1,252	1,414	1,355	1,461
Physical sciences, n.e.c.	18	8	51	59	113	90	94	93	106
Earth, atmospheric, and ocean sciences	2,886	2,784	3,020	3,346	3,127	3,271	3,034	2,962	3,018
Atmospheric sciences	106	106	125	84	102	126	104	97	97
Geosciences	1,763	1,780	1,919	2,183	2,066	1,974	1,844	1,788	1,625
Oceanography	383	360	411	464	375	419	350	325	319
Earth, atmos., and ocean sci., n.e.c.	634	538	565	615	584	752	736	752	977
Mathematical sciences	4,592	4,569	4,454	4,108	3,936	3,847	4,083	3,881	4,095
Computer sciences	7,672	9,030	10,258	11,449	11,815	12,444	13,041	12,450	12,966
Agricultural sciences	2,077	2,118	2,004	1,959	1,823	1,728	1,714	1,817	1,893
Biological sciences	6,668	6,375	6,275	6,794	6,760	6,463	6,436	6,371	6,922
Anatomy	137	116	93	102	80	87	83	79	89
Biochemistry	258	213	215	186	227	178	167	249	198
Biology	2,249	2,032	2,001	2,357	2,420	2,167	2,121	1,957	2,176
Biometry/epidemiology	247	279	253	364	386	420	499	541	702
Biophysics	17	13	14	60	98	123	48	45	37
Botany	459	392	402	493	398	423	390	408	405
Cell biology	33	44	47	23	61	78	55	57	77
Ecology	113	127	169	114	112	115	141	165	199
Entomology/parasitology	200	170	174	204	199	182	179	172	179
Genetics	63	67	70	61	90	106	101	81	89
Microbiology	493	457	426	475	427	362	412	443	461
Nutrition	1,091	1,211	1,128	1,089	1,059	1,084	1,169	1,180	1,138
Pathology	399	356	347	279	268	266	226	217	241
Pharmacology	134	132	120	115	121	149	139	130	144
Physiology	253	228	191	225	215	217	212	149	160
Zoology	353	365	422	404	357	322	314	309	420
Biosciences, n.e.c.	169	173	203	243	242	184	180	189	207
Psychology	8,087	7,861	8,433	9,156	8,661	8,925	9,139	8,914	9,755
Social sciences	25,190	21,592	20,121	20,387	20,377	21,063	20,974	21,386	21,608
Agricultural economics	267	243	237	254	269	329	331	342	298
Anthropology	1,661	1,533	1,471	1,603	1,586	1,571	1,511	1,580	1,586
Economics (except agricultural)	3,565	3,156	3,034	2,777	2,570	2,530	2,532	2,572	2,595
Geography	731	615	607	592	649	628	656	734	747
History and philosophy of science	33	24	31	45	29	27	22	39	30
Linguistics	529	497	656	501	512	532	443	530	513
Political science	11,676	10,609	9,280	9,887	9,985	10,810	10,424	10,546	10,584
Sociology	2,022	1,810	1,698	1,641	1,554	1,587	1,613	1,684	1,604
Sociology/anthropology	430	418	388	372	354	355	374	339	381
Social sciences, n.e.c.	4,276	2,687	2,719	2,715	2,869	2,694	3,068	3,020	3,270
Total, health fields	16,388	16,800	18,006	18,429	19,944	19,845	20,705	21,573	23,143
Dentistry	109	75	82	90	113	148	155	148	129
Neurology	2	3	4	2	3	2	2	15	12
Nursing	8,162	9,260	10,231	10,196	10,815	10,683	10,959	11,594	12,798
Pharmaceutical sciences	806	859	731	743	830	779	703	792	824
Preventive medicine/community health	2,647	2,566	2,742	3,016	3,007	3,247	3,356	3,370	3,631
Speech pathology/audiology	2,291	1,504	1,485	1,539	1,688	1,518	1,612	1,609	1,845
Veterinary sciences	90	103	129	119	121	136	146	133	183
Clinical medicine, n.e.c.	330	306	329	364	364	382	398	289	289
Health related, n.e.c.	1,948	2,124	2,273	2,338	3,003	2,950	3,373	3,623	3,432

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-24. Part-time science and engineering graduate students in doctorate-granting institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	106,220	106,999	108,971	114,417	116,676	117,545	117,764	117,077	123,143
New England	7,219	7,689	7,553	7,925	7,788	7,830	8,089	7,448	7,943
Connecticut	490	508	528	577	700	792	814	820	915
Maine	55	97	118	118	117	169	145	162	165
Massachusetts	5,976	6,322	6,206	6,453	6,148	6,105	6,246	5,654	6,109
New Hampshire	110	129	110	131	135	119	153	201	139
Rhode Island	368	425	356	449	469	449	527	454	482
Vermont	220	208	235	197	219	196	204	157	133
Middle Atlantic	27,757	28,821	28,936	29,410	29,595	28,607	28,397	27,429	28,714
New Jersey	5,019	5,160	5,561	5,774	5,373	5,349	5,763	5,263	5,323
New York	16,655	17,342	17,108	17,257	17,495	16,746	16,223	16,125	16,763
Pennsylvania	6,083	6,319	6,267	6,379	6,727	6,512	6,411	6,041	6,628
East North Central	16,323	16,907	16,995	16,701	17,688	18,050	17,992	18,301	19,728
Illinois	4,288	4,170	4,284	4,575	4,331	4,492	4,460	4,682	5,015
Indiana	2,110	2,271	1,508	1,044	1,556	1,554	1,452	1,664	1,845
Michigan	3,378	3,527	3,627	3,652	4,021	4,168	4,081	4,282	4,649
Ohio	5,013	5,197	5,804	5,681	5,987	5,985	6,237	5,914	6,427
Wisconsin	1,534	1,742	1,772	1,749	1,793	1,851	1,762	1,759	1,792
West North Central	5,740	5,880	6,046	7,047	7,177	7,323	7,426	7,763	8,330
Iowa	795	815	859	874	957	958	923	824	956
Kansas	830	943	1,247	1,826	1,793	1,932	1,931	2,011	2,112
Minnesota	902	959	822	1,041	909	813	814	910	972
Missouri	2,113	2,038	2,060	2,169	2,345	2,441	2,490	2,654	2,887
Nebraska	701	752	693	730	783	778	859	903	964
North Dakota	166	167	180	181	159	128	144	165	131
South Dakota	233	206	185	226	231	273	265	296	308
South Atlantic	18,896	16,442	17,759	19,115	20,111	21,569	21,506	21,194	22,705
Delaware	439	404	413	388	389	446	354	340	333
District of Columbia	4,285	4,728	4,140	3,477	5,724	5,779	5,098	4,836	4,807
Florida	1,522	1,113	1,040	1,147	1,369	1,559	1,013	1,760	1,778
Georgia	1,293	1,231	1,485	1,516	1,600	1,822	1,793	1,858	1,904
Maryland	1,947	2,138	2,351	2,433	2,431	2,369	2,665	2,675	2,726
North Carolina	1,215	1,360	1,440	1,431	1,457	1,544	1,350	1,428	1,442
South Carolina	936	819	894	835	974	1,031	964	1,009	1,040
Virginia	2,165	2,199	2,518	3,281	3,481	3,489	3,654	3,719	4,072
West Virginia	1,394	450	478	487	486	530	615	569	603
East South Central	3,819	3,806	3,999	4,204	4,353	4,459	4,711	5,165	5,866
Alabama	889	892	1,050	1,182	1,226	1,399	1,457	1,598	2,341
Kentucky	983	927	871	861	889	971	1,078	1,131	1,130
Mississippi	439	402	543	586	520	513	577	625	454
Tennessee	1,508	1,585	1,535	1,575	1,718	1,576	1,599	1,811	1,941
West South Central	9,005	9,853	9,811	10,201	10,234	10,080	10,543	11,175	12,009
Arkansas	334	333	357	398	375	465	375	300	298
Louisiana	1,033	1,218	1,062	1,001	908	778	802	816	922
Oklahoma	819	945	905	1,381	1,402	1,772	1,745	1,946	1,862
Texas	6,819	7,357	7,487	7,421	7,549	7,065	7,621	8,113	8,927
Mountain	5,950	5,561	5,734	6,522	6,630	6,717	6,789	7,214	7,702
Arizona	2,208	1,867	1,884	2,175	1,950	2,072	1,974	2,220	2,353
Colorado	1,651	1,418	1,350	1,467	1,851	1,744	1,904	2,064	2,115
Idaho	282	351	409	480	452	512	568	666	760
Montana	75	70	83	119	116	132	143	160	162
Nevada	58	142	129	119	95	116	196	186	409
New Mexico	723	767	724	745	730	737	816	782	773
Utah	852	905	1,032	1,126	1,170	1,223	1,030	944	920
Wyoming	101	41	123	291	266	181	158	172	210
Pacific	10,877	11,279	11,408	12,517	12,313	12,125	11,547	10,620	9,426
Alaska	84	99	7	169	97	164	180	98	161
California	8,775	9,169	9,319	10,356	10,277	9,864	9,255	8,514	7,093
Hawaii	280	280	242	238	250	295	307	318	329
Oregon	541	554	611	557	565	624	676	683	751
Washington	1,197	1,177	1,239	1,197	1,124	1,178	1,129	1,007	1,092
Outlying areas	634	761	730	775	787	785	764	768	720

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-25. Science and engineering postdoctoral appointees in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	19,362	20,727	21,535	22,423	23,781	24,929	26,165	28,107	30,432
Total, science/engineering fields	14,672	15,699	16,211	16,975	17,989	18,911	19,866	21,145	22,397
Engineering, total	978	1,101	1,194	1,347	1,398	1,442	1,684	1,914	1,953
Aerospace	25	32	42	51	48	43	48	38	67
Agricultural	6	28	8	15	29	31	31	38	31
Biomedical	31	28	34	47	52	44	67	67	74
Chemical	174	198	245	273	290	310	423	466	551
Civil	108	131	146	122	140	175	203	182	168
Electrical	176	174	171	176	172	175	186	193	261
Engineering science	76	71	63	90	67	42	38	74	76
Industrial	9	13	21	18	25	26	32	38	12
Mechanical	130	182	196	207	241	216	216	302	219
Metallurgical/materials	166	204	168	245	249	282	325	323	368
Mining	10	19	18	19	25	26	63	90	19
Nuclear	18	15	19	31	31	20	17	36	30
Petroleum	4	1	4	6	1	10	8	9	14
Engineering, n.e.c.	45	29	59	47	35	44	47	58	83
Sciences, total	13,694	14,598	15,017	15,628	16,591	17,469	18,182	19,231	20,444
Physical sciences	4,281	4,444	4,386	4,517	4,843	4,953	5,187	5,355	5,545
Astronomy	148	111	118	138	133	125	147	186	184
Chemistry	2,805	2,973	2,906	2,995	3,151	3,246	3,429	3,462	3,610
Physics	1,326	1,350	1,320	1,342	1,527	1,548	1,578	1,678	1,721
Physical sciences, n.e.c.	2	10	42	42	32	34	33	29	30
Earth, atmospheric, and ocean sciences	335	415	488	375	417	420	499	459	611
Atmospheric sciences	32	41	74	48	43	58	71	58	57
Geosciences	216	237	250	226	247	239	279	274	359
Oceanography	78	120	151	79	98	81	116	107	174
Earth, atmos., and ocean sci., n.e.c.	9	17	13	22	29	42	33	20	21
Mathematical sciences	194	170	203	226	201	228	280	223	253
Computer sciences	46	82	63	74	74	100	91	78	71
Agricultural sciences	279	295	358	357	388	414	422	477	499
Biological sciences	7,756	8,404	8,758	9,226	9,816	10,515	10,885	11,723	12,498
Anatomy	261	284	282	310	342	334	382	468	483
Biochemistry	1,684	1,750	1,789	1,866	1,989	2,121	2,090	2,244	2,319
Biology	942	1,013	1,127	1,128	1,101	1,189	1,232	1,290	1,361
Biometry/epidemiology	53	54	61	59	99	78	76	105	103
Biophysics	129	183	121	101	133	116	124	143	122
Botany	298	369	347	371	394	435	475	480	577
Cell biology	516	653	648	723	812	899	894	977	1,346
Ecology	28	39	37	37	39	33	52	52	57
Entomology/parasitology	119	112	113	139	143	136	175	215	212
Genetics	314	344	382	377	428	493	504	535	644
Microbiology	1,014	1,025	1,071	1,168	1,255	1,310	1,405	1,539	1,508
Nutrition	138	150	150	202	185	177	141	130	139
Pathology	540	584	607	619	709	765	819	899	1,037
Pharmacology	777	835	848	901	934	964	1,079	1,166	1,190
Physiology	673	754	817	833	896	1,019	1,034	1,067	1,074
Zoology	203	183	157	212	217	214	209	214	216
Biosciences, n.e.c.	67	72	196	180	142	200	212	195	215
Psychology	520	435	422	498	520	458	497	535	487
Social sciences	283	353	339	355	332	381	321	381	480
Agricultural economics	10	28	18	31	35	31	20	28	57
Anthropology	34	60	57	57	52	54	56	74	88
Economics (except agricultural)	13	20	26	19	22	36	9	33	42
Geography	5	7	14	10	11	18	22	22	19
History and philosophy of science	14	19	12	11	11	19	16	12	18
Linguistics	47	51	30	26	21	42	36	30	38
Political science	44	43	31	44	66	54	50	41	66
Sociology	89	99	114	92	84	93	73	83	104
Sociology/anthropology	2	1	0	2	1	3	1	0	2
Social sciences, n.e.c.	25	25	37	63	29	31	38	58	46
Total, health fields	4,690	5,028	5,324	5,448	5,792	6,018	6,299	6,962	8,035
Dentistry	246	190	171	201	89	64	87	38	66
Neurology	254	301	352	332	369	420	478	463	537
Nursing	0	6	14	17	16	49	30	36	23
Pharmaceutical sciences	238	207	237	272	330	345	396	416	409
Preventive medicine/community health	143	157	186	177	209	180	156	187	219
Speech pathology/audiology	10	18	18	18	12	25	26	28	28
Veterinary sciences	49	50	78	69	100	112	132	111	119
Clinical medicine, n.e.c.	3,658	3,998	4,168	4,262	4,566	4,731	4,889	5,558	6,480
Health related, n.e.c.	92	101	100	100	101	92	105	125	154

NOTE: n.e.c. = Not elsewhere classified.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-26. Science and engineering postdoctoral appointees in doctorate-granting institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	19,362	20,727	21,535	22,423	23,781	24,929	26,165	28,107	30,432
New England	2,906	3,202	3,527	3,491	3,741	3,860	3,870	4,088	4,659
Connecticut	694	743	816	814	802	837	853	878	988
Maine	7	9	12	15	18	18	18	16	14
Massachusetts	2,056	2,293	2,523	2,466	2,691	2,769	2,762	2,938	3,380
New Hampshire	35	49	42	43	49	66	48	58	71
Rhode Island	64	57	82	100	123	111	129	121	128
Vermont	50	51	52	53	58	59	60	77	78
Middle Atlantic	3,345	3,557	3,579	3,725	3,917	3,923	4,224	4,497	4,704
New Jersey	334	353	341	398	448	502	519	576	597
New York	2,201	2,209	2,249	2,339	2,369	2,243	2,545	2,579	2,692
Pennsylvania	810	995	989	988	1,100	1,178	1,260	1,342	1,415
East North Central	2,665	2,693	2,837	2,940	3,166	3,242	3,419	3,859	4,127
Illinois	837	864	919	914	1,005	1,043	1,100	1,150	1,196
Indiana	462	405	438	505	400	421	419	419	600
Michigan	461	493	502	479	571	630	681	811	832
Ohio	498	485	508	530	644	657	681	835	925
Wisconsin	407	446	470	512	546	491	511	544	574
West North Central	1,313	1,316	1,310	1,345	1,411	1,542	1,652	1,754	1,779
Iowa	252	266	254	255	283	305	317	362	364
Kansas	165	165	143	167	191	200	224	207	219
Minnesota	360	363	364	390	386	427	446	474	492
Missouri	445	438	459	442	445	487	540	582	560
Nebraska	63	57	66	69	78	91	93	99	109
North Dakota	25	20	20	18	21	26	26	23	23
South Dakota	3	7	4	4	7	6	6	7	12
South Atlantic	2,350	2,429	2,597	2,849	2,963	3,154	3,365	3,601	3,738
Delaware	12	30	31	34	37	14	39	41	58
District of Columbia	101	114	95	124	137	134	134	117	111
Florida	296	313	344	394	387	414	449	528	600
Georgia	281	253	258	248	285	301	319	362	393
Maryland	641	653	755	804	872	974	919	971	957
North Carolina	547	608	655	709	707	771	901	988	947
South Carolina	106	93	87	92	105	102	89	79	133
Virginia	330	333	354	406	388	397	465	455	488
West Virginia	36	32	38	38	45	47	50	60	51
East South Central	570	571	605	656	786	882	930	996	978
Alabama	163	155	170	200	245	248	267	299	299
Kentucky	116	148	154	156	173	166	182	174	153
Mississippi	40	39	41	47	48	58	68	73	88
Tennessee	251	229	240	253	320	410	413	450	438
West South Central	1,452	1,527	1,622	1,662	1,776	1,970	2,097	2,076	2,256
Arkansas	21	29	30	26	29	42	46	32	32
Louisiana	100	173	170	164	181	226	218	234	241
Oklahoma	113	118	129	133	114	126	94	115	132
Texas	1,218	1,207	1,293	1,339	1,452	1,576	1,739	1,695	1,851
Mountain	897	988	972	1,059	1,107	1,061	1,114	1,314	1,330
Arizona	240	275	295	283	310	303	300	342	331
Colorado	372	386	350	445	474	386	411	496	506
Idaho	18	17	10	24	23	22	24	27	44
Montana	26	34	23	17	19	24	28	34	37
Nevada	12	22	18	21	22	27	32	39	44
New Mexico	49	41	55	47	51	75	75	98	98
Utah	166	201	200	214	197	206	219	248	245
Wyoming	14	12	21	8	11	18	25	30	25
Pacific	3,853	4,433	4,476	4,695	4,910	5,266	5,491	5,915	6,853
Alaska	3	3	18	7	1	0	6	6	7
California	3,176	3,682	3,702	3,894	4,096	4,389	4,589	5,017	5,683
Hawaii	38	30	39	23	31	39	27	43	68
Oregon	128	173	172	178	168	196	205	177	193
Washington	508	543	545	593	614	642	664	672	902
Outlying areas	11	11	10	1	4	29	3	7	8

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-27. Science and engineering postdoctoral appointees supported by Federal sources in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	13,862	14,999	15,696	16,134	16,958	17,667	18,228	19,641	20,929
Total, science/engineering fields	11,119	11,969	12,539	12,894	13,573	14,033	14,461	15,463	16,144
Engineering, total	672	759	819	899	911	982	1,092	1,208	1,258
Aerospace	19	28	38	36	35	38	43	35	54
Agricultural	2	1	5	7	11	16	18	21	16
Biomedical	27	26	29	37	47	42	40	51	52
Chemical	100	101	128	153	153	172	215	270	297
Civil	66	91	94	80	91	116	132	102	107
Electrical	118	96	132	124	128	126	131	151	161
Engineering science	65	64	55	76	58	34	33	62	60
Industrial	3	7	0	12	14	19	24	20	7
Mechanical	94	157	160	131	148	147	154	201	157
Metalurgical/materials	121	149	127	179	177	215	237	219	242
Mining	1	1	0	0	3	5	12	8	16
Nuclear	15	13	15	24	24	16	14	24	21
Petroleum	3	1	3	3	0	3	3	3	9
Engineering, n.e.c.	38	24	33	37	22	33	36	41	59
Sciences, total	10,447	11,210	11,720	11,995	12,662	13,051	13,369	14,255	14,886
Physical sciences	3,600	3,758	3,765	3,736	4,018	3,953	4,022	4,293	4,422
Astronomy	135	91	104	117	111	112	126	166	168
Chemistry	2,307	2,493	2,473	2,424	2,556	2,496	2,587	2,699	2,798
Physics	1,156	1,165	1,150	1,155	1,322	1,312	1,280	1,405	1,430
Physical sciences, n.e.c.	2	9	38	40	29	33	29	23	26
Earth, atmospheric, and ocean sciences	255	314	350	292	321	321	398	388	504
Atmospheric sciences	28	39	69	43	42	58	67	55	51
Geosciences	163	166	170	175	190	170	204	225	285
Oceanography	58	98	103	60	73	68	104	94	151
Earth, atmos., and ocean sci., n.e.c.	6	11	8	14	16	25	23	14	17
Mathematical sciences	46	83	132	120	114	129	188	141	158
Computer sciences	25	47	48	48	64	77	59	62	57
Agricultural sciences	166	168	207	193	196	226	221	274	267
Biological sciences	5,825	6,333	6,709	7,059	7,397	7,840	7,991	8,549	8,926
Anatomy	185	221	215	239	254	261	302	368	392
Biochemistry	1,300	1,379	1,410	1,485	1,509	1,628	1,568	1,675	1,732
Biology	711	767	929	931	870	955	963	1,016	1,054
Biometry/epidemiology	41	34	54	46	74	51	56	75	71
Biophysics	111	167	111	88	118	102	89	101	83
Botany	213	259	237	277	259	282	303	301	305
Cell biology	398	507	471	487	587	637	651	687	924
Ecology	22	32	25	33	26	35	30	45	38
Entomology/parasitology	88	75	85	91	105	110	108	157	136
Genetics	233	246	260	256	291	341	317	339	409
Microbiology	770	754	818	895	942	958	998	1,093	1,074
Nutrition	86	81	92	125	135	124	90	58	64
Pathology	350	384	432	417	485	496	563	607	641
Pharmacology	576	641	662	705	713	740	827	903	890
Physiology	524	584	609	660	730	808	810	815	820
Zoology	163	144	127	170	176	166	149	156	139
Biosciences, n.e.c.	50	58	172	154	123	147	167	152	168
Psychology	392	332	327	390	408	345	364	379	357
Social sciences	138	175	182	157	144	160	126	169	195
Agricultural economics	3	20	15	20	27	22	13	16	28
Anthropology	22	27	25	14	16	13	13	22	24
Economics (except agricultural)	8	2	12	13	4	9	4	10	12
Geography	3	8	9	4	3	15	16	19	15
History and philosophy of science	5	9	7	5	8	4	5	3	3
Linguistics	9	6	9	7	8	7	7	7	10
Political science	15	16	13	8	12	12	9	26	24
Sociology	67	79	82	61	62	57	39	42	56
Sociology/anthropology	5	8	0	1	0	1	0	0	0
Social sciences, n.e.c.	5	8	10	12	13	17	20	24	23
Total, health fields	2,743	3,030	3,157	3,240	3,385	3,634	3,767	4,178	4,785
Dentistry	50	90	83	91	34	39	65	29	41
Neurology	173	211	228	210	216	266	328	301	347
Nursing	0	1	3	9	10	44	15	22	21
Pharmaceutical sciences	159	134	187	220	251	269	298	302	306
Preventive medicine/community health ...	82	101	127	113	131	114	94	131	158
Speech pathology/audiology	10	15	15	15	12	23	21	23	26
Veterinary sciences	22	33	49	35	56	74	93	64	72
Clinical medicine, n.e.c.	2,184	2,381	2,388	2,478	2,612	2,741	2,779	3,221	3,737
Health related, n.e.c.	63	64	77	69	63	64	74	85	77

NOTE: n.e.c. = Not elsewhere classified.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-28. Science and engineering postdoctoral appointees supported by non-Federal sources in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	5,500	5,728	5,839	6,289	6,823	7,262	7,937	8,466	9,503
Total, science/engineering fields	3,553	3,730	3,672	4,081	4,416	4,878	5,405	5,682	6,253
Engineering, total	306	342	375	448	487	460	592	706	695
Aerospace	6	4	4	15	13	5	5	3	13
Agricultural	4	3	3	8	6	13	13	17	15
Biomedical	4	5	5	10	5	2	7	16	22
Chemical	74	97	117	120	142	138	208	196	254
Civil	42	40	52	42	49	59	71	80	61
Electrical	58	78	39	52	44	49	55	42	80
Engineering science	11	7	8	14	9	8	5	12	16
Industrial	6	6	21	6	11	7	8	18	5
Mechanical	45	25	36	76	93	69	62	101	62
Metallurgical/materials	9	52	41	66	72	67	88	104	126
Mining	3	18	18	19	23	21	51	82	3
Nuclear	1	0	1	7	1	4	3	12	6
Petroleum	7	5	26	10	13	11	11	17	24
Engineering, n.e.c.									
Sciences, total	3,247	3,388	3,297	3,633	3,929	4,418	4,813	4,976	5,558
Physical sciences	681	686	621	781	825	1,000	1,165	1,062	1,123
Astronomy	13	20	14	21	22	13	21	20	16
Chemistry	498	480	433	571	595	750	842	763	812
Physics	170	185	170	187	205	236	298	273	291
Physical sciences, n.e.c.	0	1	4	2	3	1	4	6	4
Earth, atmospheric, and ocean sciences	80	101	138	83	96	99	101	71	107
Atmospheric sciences	4	2	5	5	1	0	0	3	6
Geosciences	53	71	80	51	57	69	75	49	74
Oceanography	20	22	48	19	25	13	12	13	23
Earth, atmos., and ocean sci., n.e.c.	3	6	5	8	13	17	10	6	4
Mathematical sciences	148	87	71	106	87	99	92	82	95
Computer sciences	21	35	15	26	10	23	32	16	14
Agricultural sciences	113	127	151	164	192	188	201	203	232
Biological sciences	1,931	2,071	2,049	2,167	2,419	2,675	2,894	3,174	3,572
Anatomy	76	63	67	71	88	73	80	100	91
Biochemistry	384	371	379	381	480	493	522	569	587
Biology	231	246	198	197	231	234	269	274	327
Biometry/epidemiology	12	10	13	13	25	28	20	29	28
Biophysics	14	16	10	13	15	14	35	42	39
Botany	85	110	110	94	135	153	172	179	170
Cell biology	118	146	177	236	225	262	243	290	422
Ecology	6	7	11	4	11	4	3	7	19
Entomology/parasitology	31	37	28	48	38	52	68	62	76
Genetics	81	98	122	121	137	152	187	196	235
Microbiology	244	271	253	273	313	352	407	446	431
Nutrition	52	69	58	77	50	53	51	72	73
Pathology	190	200	175	202	224	269	256	292	396
Pharmacology	201	194	186	196	221	254	252	263	300
Physiology	149	170	208	173	166	211	224	232	254
Zoology	40	39	30	42	41	48	60	38	77
Biosciences, n.e.c.	17	14	24	26	19	53	45	43	47
Psychology	128	103	95	108	112	113	133	156	130
Social sciences	145	178	157	198	188	221	195	212	285
Agricultural economics	7	8	3	11	8	9	7	12	29
Anthropology	12	33	32	31	38	38	43	52	64
Economics (except agricultural)	5	12	14	6	18	27	5	23	30
Geography	2	5	5	6	8	3	6	3	4
History and philosophy of science	9	10	5	6	10	15	11	9	15
Linguistics	38	45	21	19	13	35	29	23	28
Political science	29	27	18	36	54	42	41	15	42
Sociology	22	20	32	31	22	36	34	41	48
Sociology/anthropology	1	1	0	1	1	2	1	0	2
Social sciences, n.e.c.	20	17	27	51	16	14	18	34	23
Total, health fields	1,947	1,998	2,167	2,208	2,407	2,384	2,532	2,784	3,250
Dentistry	195	100	88	110	55	25	22	9	25
Neurology	81	90	124	122	153	154	150	162	190
Nursing	0	5	11	8	6	5	15	14	2
Pharmaceutical sciences	79	73	50	52	79	76	98	114	103
Preventive medicine/community health	61	56	59	64	78	66	62	56	61
Speech pathology/audiology	0	3	3	3	0	2	3	5	2
Veterinary sciences	27	17	29	32	44	38	39	47	47
Clinical medicine, n.e.c.	1,474	1,617	1,780	1,784	1,954	1,990	2,110	2,337	2,743
Health related, n.e.c.	29	37	23	31	38	28	31	40	77

NOTE: n.e.c. = Not elsewhere classified.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-29. Science and engineering postdoctoral appointees with U.S. citizenship in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	12,128	13,199	13,547	13,540	14,081	14,158	14,446	14,981	15,754
Total, science/engineering fields	8,711	9,489	9,698	9,757	10,157	10,391	10,541	10,845	11,090
Engineering, total	321	410	435	440	458	496	585	657	609
Aerospace	6	8	10	10	15	17	20	14	21
Agricultural	3	3	4	6	4	7	12	11	12
Biomedical	25	20	21	27	36	32	26	29	37
Chemical	41	55	65	55	63	82	100	117	157
Civil	38	52	53	49	46	57	91	80	77
Electrical	82	67	61	76	59	103	70	58	78
Engineering science	35	39	25	41	28	21	23	28	29
Industrial	4	6	12	16	19	19	23	23	29
Mechanical	30	69	82	61	94	69	76	100	67
Metallurgical/materials	28	53	52	47	56	70	72	86	88
Mining	2	18	18	19	19	20	53	80	1
Nuclear	10	6	7	12	9	7	6	13	9
Petroleum	2	1	1	1	0	1	0	2	4
Engineering, n.e.c.	15	13	24	20	10	10	13	16	20
Sciences, total	8,390	9,079	9,263	9,317	9,699	9,895	9,956	10,188	10,481
Physical sciences	1,914	2,059	1,974	2,016	2,203	2,175	2,256	2,266	2,205
Astronomy	115	85	86	95	88	76	90	109	112
Chemistry	1,144	1,306	1,250	1,277	1,292	1,253	1,328	1,356	1,318
Physics	653	661	612	609	796	817	812	778	751
Physical sciences, n.e.c.	2	7	26	35	27	29	26	23	24
Earth, atmospheric, and ocean sciences ..	214	256	324	250	276	258	311	279	392
Atmospheric sciences	15	20	51	33	32	41	41	35	31
Geosciences	132	137	142	136	158	134	168	161	218
Oceanography	60	89	121	64	67	56	82	73	130
Earth, atmos., and ocean sci., n.e.c.	7	10	10	17	19	27	20	10	13
Mathematical sciences	68	80	103	112	100	118	147	94	99
Computer sciences	34	37	42	45	45	65	52	42	40
Agricultural sciences	163	214	256	215	225	253	274	285	309
Biological sciences	5,359	5,822	5,950	6,005	6,170	6,347	6,249	6,525	6,755
Anatomy	210	210	218	234	239	210	230	281	251
Biochemistry	1,058	1,110	1,085	1,041	1,164	1,211	1,112	1,174	1,109
Biology	668	739	836	848	735	809	791	854	811
Biometry/epidemiology	39	34	58	46	65	53	55	65	75
Biophysics	78	122	74	72	79	59	61	69	50
Botany	202	269	260	268	284	310	330	303	280
Cell biology	357	484	444	486	514	559	551	552	803
Ecology	26	35	32	29	28	32	25	39	39
Entomology/parasitology	89	82	92	103	98	118	110	130	138
Genetics	238	244	266	263	285	332	313	328	396
Microbiology	705	736	743	738	744	744	794	847	803
Nutrition	101	101	91	119	100	99	60	48	52
Pathology	379	415	437	397	439	441	439	466	603
Pharmacology	481	510	516	556	566	505	539	563	643
Physiology	504	537	552	532	567	599	578	572	559
Zoology	175	151	129	179	176	162	159	159	150
Biosciences, n.e.c.	49	43	117	94	87	104	102	75	93
Psychology	455	374	376	444	470	385	424	433	402
Social sciences	183	237	238	230	210	294	243	264	279
Agricultural economics	4	20	14	21	17	14	14	17	26
Anthropology	31	51	48	49	38	50	48	55	67
Economics (except agricultural)	1	9	17	2	7	21	6	18	7
Geography	8	11	3	6	2	15	19	19	16
History and philosophy of science	21	22	17	15	12	13	11	7	12
Linguistics	66	67	14	14	43	33	15	10	17
Political science	72	84	97	70	68	74	57	63	68
Sociology	1	0	0	0	1	3	0	0	1
Sociology/anthropology	15	13	24	43	15	27	33	47	29
Social sciences, n.e.c.									
Total, health fields	3,417	3,710	3,849	3,783	3,924	3,767	3,905	4,136	4,664
Dentistry	195	125	116	161	163	36	64	9	24
Neurology	190	215	248	225	232	241	285	262	275
Nursing	0	6	14	16	16	48	50	35	22
Pharmaceutical sciences	87	93	93	102	144	108	137	148	151
Preventive medicine/community health ...	121	133	147	140	147	133	110	115	145
Speech pathology/audiology	8	16	17	16	10	23	22	21	19
Veterinary sciences	41	45	68	51	68	80	98	79	77
Clinical medicine, n.e.c.	2,700	3,000	3,071	3,014	3,180	3,032	3,091	3,401	3,861
Health related, n.e.c.	75	77	75	78	74	68	68	72	90

NOTE: n.e.c. = Not elsewhere classified.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-30. Science and engineering postdoctoral appointees without U.S. citizenship in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	7,234	7,528	7,988	8,883	9,700	10,771	11,719	13,126	14,678
Total, science/engineering fields	5,961	6,210	6,513	7,218	7,832	8,520	9,325	10,300	11,307
Engineering, total	657	691	759	907	940	946	1,099	1,257	1,344
Aerospace	19	24	32	41	33	30	28	24	46
Agricultural	3	1	4	9	13	22	19	27	19
Biomedical	6	8	13	20	16	12	21	38	37
Chemical	133	143	180	218	232	243	323	349	394
Civil	70	79	93	73	94	118	112	102	91
Electrical	94	107	110	100	113	72	116	135	163
Engineering science	41	32	38	49	39	21	15	46	47
Industrial	5	7	9	2	6	7	9	15	3
Mechanical	100	113	114	146	147	147	140	202	152
Metallurgical/materials	138	151	116	198	193	212	253	237	280
Mining	8	1	0	0	6	6	10	10	18
Nuclear	8	9	12	19	22	13	11	23	21
Petroleum	2	0	3	5	1	1	7	10	10
Engineering, n.e.c.	30	16	35	27	25	34	34	42	63
Sciences, total	5,304	5,519	5,754	6,311	6,892	7,574	8,226	9,043	9,963
Physical sciences	2,367	2,385	2,412	2,501	2,640	2,778	2,931	3,089	3,340
Astronomy	33	26	32	43	45	49	57	77	72
Chemistry	1,661	1,667	1,656	1,718	1,859	1,993	2,101	2,106	2,292
Physics	673	689	708	733	731	731	766	900	970
Physical sciences, n.e.c.	0	3	16	7	5	5	7	6	6
Earth, atmospheric, and ocean sciences	121	159	164	125	141	162	188	180	219
Atmospheric sciences	17	21	23	15	11	30	30	23	26
Geosciences	84	100	108	90	89	105	111	113	141
Oceanography	18	31	30	15	31	25	34	34	44
Earth, atmos., and ocean sci., n.e.c.	2	7	3	5	10	15	13	10	8
Mathematical sciences	126	90	100	114	101	110	133	129	154
Computer sciences	12	45	21	29	29	35	39	36	31
Agricultural sciences	116	81	102	142	163	161	148	192	190
Biological sciences	2,397	2,582	2,808	3,221	3,646	4,168	4,636	5,198	5,743
Anatomy	51	74	64	76	103	124	152	187	232
Biochemistry	626	640	704	825	825	910	978	1,070	1,210
Biology	274	274	291	280	366	380	441	436	550
Biometry/epidemiology	14	20	9	13	34	25	21	40	28
Biophysics	51	101	47	29	54	57	63	74	72
Botany	96	100	87	103	110	125	145	177	195
Cell biology	159	169	204	237	298	340	343	425	543
Ecology	2	4	4	9	9	7	8	13	18
Entomology/parasitology	30	30	21	36	45	44	66	89	74
Genetics	76	100	116	114	143	161	191	207	248
Microbiology	309	289	328	430	511	566	611	692	702
Nutrition	37	49	59	83	85	78	81	82	87
Pathology	161	169	170	222	270	324	380	433	434
Pharmacology	296	325	332	425	468	459	540	603	647
Physiology	169	217	265	301	329	420	456	495	515
Zoology	28	32	28	33	41	52	50	55	66
Biosciences, n.e.c.	18	29	79	86	55	96	110	120	122
Psychology	65	61	46	54	50	73	73	102	85
Social sciences	100	116	101	125	122	87	78	117	201
Agricultural economics	6	8	4	10	18	17	6	11	31
Anthropology	3	9	9	8	14	4	8	19	21
Economics (except agricultural)	9	11	14	9	15	15	3	15	35
Geography	4	7	7	8	9	3	3	3	6
History and philosophy of science	6	8	7	5	4	6	5	5	6
Linguistics	26	29	13	11	9	9	21	20	21
Political science	18	16	17	30	23	10	10	13	30
Sociology	17	15	17	22	16	19	16	20	36
Sociology/anthropology	1	1	0	2	0	0	1	0	1
Social sciences, n.e.c.	10	12	13	20	14	4	5	11	17
Total, health fields	1,273	1,318	1,475	1,665	1,868	2,251	2,394	2,826	3,371
Dentistry	51	65	55	60	36	28	23	29	42
Neurology	64	86	104	107	137	179	193	201	262
Nursing	0	0	0	1	0	0	0	1	1
Pharmaceutical sciences	151	114	144	170	186	239	259	274	258
Preventive medicine/community health ...	22	24	39	37	62	47	46	72	74
Speech pathology/audiology	8	5	10	2	2	2	4	7	9
Veterinary sciences	958	998	1,097	1,248	1,386	1,699	1,798	2,157	2,619
Clinical medicine, n.e.c.	17	24	25	22	27	24	37	53	64
Health related, n.e.c.									

NOTE: n.e.c. = Not elsewhere classified.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-31. Nonfaculty scientists and engineers in doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	4,025	4,873	5,017	5,102	4,848	4,599	4,866	4,895	5,254
Total, science/engineering fields	3,484	3,973	4,017	4,148	3,888	3,703	3,915	4,040	4,346
Engineering, total	670	630	586	612	519	438	565	574	604
Aerospace	26	24	22	21	34	28	21	14	24
Agricultural	3	4	10	1	1	2	2	19	13
Biomedical	10	11	12	14	5	2	7	18	12
Chemical	96	50	60	76	75	48	76	75	77
Civil	114	86	51	31	33	38	39	37	51
Electrical	74	126	148	148	87	61	115	114	103
Engineering science	33	36	29	29	27	24	20	19	17
Industrial	27	10	9	3	2	13	7	5	15
Mechanical	149	128	84	112	83	85	107	89	129
Metallurgical/materials	89	94	100	131	128	96	124	120	103
Mining	9	3	0	0	1	1	0	0	1
Nuclear	19	29	19	26	28	24	27	38	36
Petroleum	0	4	6	5	1	2	2	1	5
Engineering, n.e.c.	21	25	18	12	14	12	11	25	18
Sciences, total	2,814	3,343	3,431	3,536	3,369	3,265	3,350	3,466	3,742
Physical sciences	804	756	853	962	924	848	958	986	998
Astronomy	71	67	66	78	58	69	81	68	87
Chemistry	346	304	377	396	411	367	432	465	449
Physics	386	383	408	485	450	409	444	452	458
Physical sciences, n.e.c.	1	2	2	3	5	3	1	1	4
Earth, atmospheric, and ocean sciences	239	305	242	184	190	197	196	226	310
Atmospheric sciences	29	47	46	42	39	44	18	10	19
Geosciences	100	134	130	87	98	114	108	118	135
Oceanography	99	111	44	38	38	37	65	81	133
Earth, atmos., and ocean sci., n.e.c.	11	13	22	17	15	2	5	17	23
Mathematical sciences	82	125	125	176	54	69	88	64	88
Computer sciences	47	58	56	77	97	122	95	68	61
Agricultural sciences	75	168	133	116	145	113	112	136	175
Biological sciences	1,282	1,587	1,624	1,666	1,614	1,577	1,628	1,728	1,805
Anatomy	36	60	53	62	59	79	64	78	63
Biochemistry	218	280	276	339	285	296	311	369	343
Biology	295	308	306	285	349	319	314	242	275
Biometry/epidemiology	15	23	24	24	12	13	21	20	21
Biophysics	54	24	42	24	16	11	8	20	33
Botany	76	72	66	68	66	65	77	86	87
Cell biology	41	44	68	93	82	94	133	163	135
Ecology	5	9	14	13	17	22	21	31	13
Entomology/parasitology	47	61	63	60	47	31	37	36	86
Genetics	20	40	43	68	64	80	47	53	70
Microbiology	99	148	110	139	166	134	132	120	164
Nutrition	38	49	60	41	47	45	56	63	77
Pathology	43	75	84	97	66	88	91	103	113
Pharmacology	88	178	180	163	163	117	107	137	144
Physiology	160	157	157	130	126	135	147	172	129
Zoology	29	39	61	47	37	37	28	28	40
Biosciences, n.e.c.	18	20	17	13	12	11	14	6	12
Psychology	150	157	220	209	215	255	172	179	203
Social sciences	135	187	178	146	130	84	101	79	102
Agricultural economics	18	29	14	10	11	4	5	6	17
Anthropology	19	38	41	37	46	32	25	30	22
Economics (except agricultural)	49	42	42	32	1	1	0	0	1
Geography	2	0	0	4	6	1	4	4	4
History and philosophy of science	3	2	26	11	19	19	16	3	25
Linguistics	6	25	9	12	15	2	27	15	5
Political science	22	19	26	31	27	18	17	0	23
Sociology	0	1	0	0	0	0	0	0	0
Sociology/anthropology	13	22	13	8	3	3	4	8	1
Social sciences, n.e.c.									
Total, health fields	541	900	1,000	954	960	896	951	855	908
Dentistry	2	81	58	66	12	11	5	10	9
Neurology	34	45	82	68	80	67	95	81	73
Nursing	8	7	5	26	13	8	4	3	10
Pharmaceutical sciences	24	37	34	51	26	36	46	32	22
Preventive medicine/community health	32	54	46	56	50	35	42	40	69
Speech pathology/audiology	10	23	24	8	13	17	9	20	20
Veterinary sciences	3	27	26	32	28	29	19	28	34
Clinical medicine, n.e.c.	427	617	701	632	727	671	660	623	639
Health related, n.e.c.	1	9	24	35	22	22	71	18	32

NOTE: n.e.c. = Not elsewhere classified.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table C-32. Nonfaculty scientists and engineers in doctorate-granting institutions by geographic distribution: 1982-90

Geographic distribution	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	4,025	4,873	5,017	5,102	4,848	4,599	4,866	4,895	5,254
New England	660	688	618	626	455	401	478	384	461
Connecticut	97	126	121	86	55	45	69	79	121
Maine	0	2	0	1	3	4	3	7	11
Massachusetts	527	515	466	521	372	323	381	258	272
New Hampshire	7	10	5	4	5	11	7	7	25
Rhode Island	24	23	18	10	9	14	17	31	28
Vermont	5	12	8	4	9	4	1	2	4
Middle Atlantic	672	831	871	937	987	974	1,098	1,172	1,142
New Jersey	99	101	67	66	75	83	94	111	138
New York	368	460	544	569	594	580	717	769	702
Pennsylvania	205	270	260	302	318	311	287	292	302
East North Central	487	692	787	790	766	685	639	709	814
Illinois	98	125	173	155	172	120	103	109	99
Indiana	58	133	150	124	134	130	82	132	164
Michigan	97	115	159	148	136	124	151	133	161
Ohio	68	125	111	161	129	129	119	120	169
Wisconsin	166	194	194	202	195	182	184	215	221
West North Central	199	279	273	279	265	296	320	369	362
Iowa	26	39	63	53	57	80	99	116	85
Kansas	13	40	31	45	15	21	12	26	41
Minnesota	89	76	91	74	70	92	83	105	110
Missouri	55	88	63	86	94	82	92	97	110
Nebraska	9	26	9	15	16	21	23	21	7
North Dakota	6	7	10	2	13	0	8	4	6
South Dakota	1	3	6	4	0	0	3	0	3
South Atlantic	419	619	518	487	448	367	411	309	394
Delaware	6	49	52	64	0	0	5	6	14
District of Columbia	33	30	23	36	28	44	27	25	45
Florida	50	112	88	71	69	53	36	31	50
Georgia	39	65	62	41	36	34	26	31	42
Maryland	84	91	68	71	83	85	86	43	61
North Carolina	158	159	165	157	183	114	121	111	117
South Carolina	11	39	14	11	5	8	16	21	18
Virginia	37	65	45	28	42	29	34	40	44
West Virginia	1	9	1	8	2	0	1	1	3
East South Central	88	103	103	136	143	96	119	130	121
Alabama	27	32	22	45	46	20	28	40	66
Kentucky	29	22	27	35	41	38	34	27	24
Mississippi	4	18	11	8	6	2	10	9	12
Tennessee	28	31	43	48	50	36	47	54	19
West South Central	246	269	285	278	318	278	302	375	374
Arkansas	2	13	1	12	13	7	6	5	10
Louisiana	30	14	18	29	23	34	22	35	23
Oklahoma	33	27	30	17	19	23	15	10	14
Texas	181	215	236	220	263	214	259	325	327
Mountain	200	214	231	227	197	215	236	246	283
Arizona	80	51	47	65	25	52	78	76	49
Colorado	58	72	81	83	88	61	66	66	105
Idaho	8	18	18	9	20	17	14	21	30
Montana	9	4	7	12	9	7	8	13	6
Nevada	1	2	1	5	2	5	1	0	1
New Mexico	22	25	31	36	26	44	33	28	37
Utah	17	40	34	20	24	27	32	36	43
Wyoming	5	2	12	0	0	2	4	6	12
Pacific	1,054	1,177	1,330	1,338	1,269	1,286	1,263	1,199	1,302
Alaska	0	1	0	0	0	0	0	1	4
California	972	1,013	1,177	1,197	1,151	1,162	1,138	1,084	1,167
Hawaii	12	38	56	32	28	25	29	29	30
Oregon	21	30	38	25	33	33	19	23	43
Washington	49	95	59	84	57	66	77	62	58
Outlying areas	0	1	1	4	0	1	0	2	1

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-1. Science and engineering graduate students in master's-granting institutions by enrollment status and field: 1975-90

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Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmos- pheric, and ocean sciences	Mathe- matical sciences	Computer sciences	Agri- cultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	37,671	31,421	1,404	1,229	2,250	1,050	506	4,863	8,369	11,750
1976	39,195	32,143	1,441	1,189	2,076	1,064	553	5,195	8,456	12,169
1977	43,566	35,094	1,675	1,255	1,976	1,279	573	5,524	9,634	13,178
1978	42,216	34,926	1,665	1,241	1,883	1,396	665	5,484	10,285	13,137
1979	47,147	39,057	1,658	1,230	1,798	2,010	775	5,449	10,980	13,557
1980	47,014	38,968	1,665	1,230	1,738	2,228	675	5,132	10,660	12,550
1981	48,374	39,677	1,589	1,307	1,885	2,288	727	4,917	10,801	11,553
1982	48,792	39,520	1,688	1,370	2,429	2,229	718	4,394	10,101	10,591
1983	50,935	42,221	1,719	1,263	2,512	2,310	752	4,446	11,028	10,191
1984	51,747	43,933	1,654	1,326	2,411	2,444	735	4,208	11,041	11,114
1985	51,920	43,696	1,683	1,328	2,345	2,021	700	4,048	10,818	10,753
1986	52,175	43,388	1,717	1,174	2,327	2,221	654	3,847	10,895	10,553
1987	53,049	43,370	1,771	1,154	2,381	2,054	665	3,753	11,334	10,258
1988	52,288	43,117	1,760	1,161	2,249	2,045	698	3,621	11,874	9,709
1989	55,027	45,544	1,821	1,171	2,477	2,326	683	3,803	12,729	10,534
1990	60,538	48,510	1,833	1,293	2,587	2,840	738	3,867	13,974	11,378
Full-time										
1975	13,653	11,838	466	627	548	309	246	1,885	3,842	3,915
1976	13,964	11,935	509	484	573	299	277	2,086	3,624	4,083
1977	15,248	13,003	637	491	501	346	271	2,102	3,960	4,695
1978	15,692	13,196	663	514	508	500	339	2,166	4,258	4,248
1979	16,258	13,543	691	538	516	723	423	2,231	4,578	3,843
1980	16,811	13,508	666	654	542	687	389	2,077	4,514	3,979
1981	16,723	12,883	696	495	466	973	420	2,078	4,480	3,275
1982	16,186	12,275	701	518	645	1,260	372	1,741	3,918	3,120
1983	17,621	13,434	703	552	648	1,411	416	1,878	4,551	3,275
1984	18,137	14,032	705	553	706	1,479	427	1,792	4,508	3,862
1985	17,862	13,808	731	568	673	1,727	376	1,666	4,435	3,632
1986	17,934	13,661	695	461	671	1,921	377	1,569	4,526	3,441
1987	18,534	13,923	762	446	704	1,933	372	1,553	4,868	3,285
1988	18,263	13,660	796	459	714	1,895	398	1,513	5,104	2,781
1989	19,052	14,166	764	423	681	1,938	388	1,541	5,511	2,920
1990	20,574	15,230	728	447	668	2,171	409	1,553	6,062	3,192
Part-time										
1975	24,018	19,583	938	602	1,702	741	260	2,978	4,527	7,835
1976	25,231	20,208	932	705	1,503	765	276	3,109	4,832	8,086
1977	28,518	22,091	1,038	764	1,475	933	302	3,422	5,674	8,483
1978	29,524	22,760	1,002	727	1,375	1,096	326	3,218	6,027	8,889
1979	30,889	23,514	967	692	1,282	1,287	352	3,218	6,402	9,314
1980	30,203	22,460	899	766	1,196	1,341	286	3,055	6,146	8,571
1981	31,651	23,084	893	812	1,419	2,315	307	2,839	6,321	8,178
1982	32,606	23,245	987	852	1,784	2,969	346	2,653	6,477	7,471
1983	33,314	23,787	1,016	711	1,864	3,899	336	2,568	6,533	7,916
1984	33,610	23,901	949	773	1,705	3,265	308	2,416	6,383	7,252
1985	34,058	23,888	952	760	1,672	4,294	277	2,278	6,369	7,121
1986	34,241	23,727	1,022	713	1,656	4,300	293	2,200	6,666	6,973
1987	34,515	23,447	1,009	708	1,677	4,121	300	2,108	6,770	6,928
1988	34,025	23,457	964	702	1,535	4,150	295	2,262	7,218	7,614
1989	36,875	25,378	1,057	748	1,796	4,388	329	2,314	7,912	8,186
1990	39,964	27,280	1,105	846	1,919	4,669				

See explanatory information, if any, and SOURCE(S) at end of table.

Table D-1. Science and engineering graduate students in master's-granting institutions by enrollment status and field: 1975-90

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Year	Engineering									Total, health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
Total enrollment										
1975	3,176	34	100	636	512	528	434	39	893	3,074
1976	3,287	28	115	663	517	507	378	42	1,037	3,765
1977	4,100	22	124	849	868	604	524	68	1,041	4,372
1978	4,392	10	140	851	887	602	582	82	1,238	4,868
1979	4,751	5	159	857	908	600	649	100	1,473	5,339
1980	5,178	7	235	955	1,101	803	733	71	1,273	5,868
1981	6,091	7	235	1,199	1,293	838	705	78	1,736	6,516
1982	6,401	8	266	977	1,435	862	700	94	2,059	6,871
1983	6,628	32	224	885	1,668	827	822	109	2,061	7,086
1984	6,544	32	189	832	1,707	880	889	85	1,930	7,270
1985	6,729	33	165	827	1,753	994	911	120	1,927	7,495
1986	7,299	33	142	885	2,068	1,052	1,133	131	1,855	7,888
1987	7,675	35	149	1,093	2,311	1,003	1,214	122	1,748	8,004
1988	7,036	37	117	926	2,182	1,030	1,183	108	1,453	8,135
1989	7,937	67	113	992	2,948	1,235	1,279	120	1,183	8,446
1990	9,046	91	130	1,118	3,434	1,528	1,368	138	1,239	8,982
Full-time										
1975	647	20	25	167	59	88	52	7	229	1,168
1976	639	12	26	138	55	89	45	7	267	1,390
1977	782	9	24	190	175	115	86	10	173	1,463
1978	856	3	32	214	178	116	84	12	217	1,640
1979	953	1	42	241	182	117	82	15	273	1,762
1980	1,159	3	71	224	270	196	111	18	266	2,144
1981	1,429	3	71	389	294	210	85	18	359	2,411
1982	1,541	3	90	330	256	241	139	25	457	2,370
1983	1,637	15	92	274	349	192	152	18	545	2,550
1984	1,565	14	90	236	396	162	187	9	471	2,540
1985	1,476	14	78	242	394	175	192	18	363	2,578
1986	1,695	16	73	278	490	171	202	30	435	2,578
1987	1,842	17	67	271	583	188	209	27	480	2,769
1988	1,921	16	58	328	641	222	240	23	393	2,682
1989	2,183	30	49	331	799	269	279	28	398	2,703
1990	2,378	64	42	281	831	423	338	24	375	2,966
Part-time										
1975	2,529	14	75	469	453	440	382	32	664	1,906
1976	2,648	16	39	525	462	418	333	35	770	2,375
1977	3,318	13	100	659	693	489	438	58	868	2,909
1978	3,536	7	108	637	709	486	498	70	1,021	3,228
1979	3,798	117	117	616	726	483	567	85	1,200	3,577
1980	4,019	4	164	731	831	607	622	53	1,007	3,724
1981	4,662	4	164	810	999	628	620	60	1,377	3,905
1982	4,860	5	176	647	1,179	621	561	69	1,602	4,501
1983	4,991	17	132	611	1,319	635	670	91	1,516	4,536
1984	4,979	18	99	596	1,311	718	702	76	1,459	4,730
1985	5,253	18	87	585	1,359	819	719	102	1,564	4,917
1986	5,604	17	69	607	1,578	881	931	101	1,420	4,910
1987	5,833	18	82	822	1,728	815	1,005	95	1,268	5,235
1988	5,115	21	59	598	1,541	808	943	85	1,060	5,453
1989	5,754	37	64	661	2,149	966	1,000	92	785	5,743
1990	6,668	27	88	837	2,603	1,105	1,030	114	864	6,016

1/ Master's-granting institutions were not surveyed in 1978; totals include estimates based on 1977 and 1979 data.

2/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-2. Science and engineering graduate students in master's-granting institutions
by sex and field: 1975-90

Page 1 of 2

Year	Total, all surveyed fields	Sciences								
		Sciences, total	Physical sciences	Earth, atmospheric, and ocean sciences	Mathematical sciences	Computer sciences	Agricultural sciences	Biological sciences	Psychology	Social sciences
Total enrollment										
1975	37,671	31,421	1,404	1,229	2,250	1,050	506	4,863	8,369	11,750
1976	39,195	32,143	1,441	1,189	2,076	1,064	553	5,195	8,456	12,169
1977	43,566	35,094	1,675	1,255	1,976	1,279	573	5,524	9,634	13,178
1978 1/.....	45,216	35,956	1,665	1,241	1,883	1,596	665	5,484	10,285	13,137
1979	47,147	37,057	1,658	1,230	1,798	2,010	775	5,449	10,980	13,157
1980	47,014	35,968	1,565	1,420	1,738	2,228	675	5,132	10,660	12,550
1981	48,374	35,967	1,589	1,307	1,885	3,288	727	4,917	10,801	11,453
1982	48,792	35,520	1,688	1,370	2,429	4,229	718	4,394	10,101	10,591
1983	50,935	37,221	1,719	1,263	2,512	5,310	752	4,446	11,028	10,191
1984 2/.....	51,747	37,933	1,654	1,326	2,411	5,444	735	4,208	11,041	11,114
1985 2/.....	51,920	37,696	1,683	1,328	2,345	6,021	700	4,048	10,818	10,753
1986 2/.....	52,175	37,388	1,717	1,174	2,327	6,221	654	3,847	10,895	10,353
1987 2/.....	53,049	37,370	1,771	1,154	2,381	6,054	665	3,753	11,334	10,250
1988	52,288	37,117	1,760	1,161	2,249	6,045	698	3,621	11,874	9,709
1989	55,927	39,544	1,821	1,171	2,477	6,326	683	3,803	12,729	10,334
1990	60,538	42,510	1,833	1,293	2,587	6,840	738	3,867	13,974	11,378
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	25,079	20,780	1,109	916	1,315	879	457	3,387	4,379	8,338
1977	27,158	21,965	1,292	990	1,270	1,039	489	3,475	4,612	8,798
1978 1/.....	27,396	21,963	1,243	975	1,176	1,272	578	3,408	4,877	8,434
1979	27,760	22,087	1,195	962	1,088	1,574	683	3,345	5,160	8,080
1980	27,268	20,983	1,180	1,061	1,110	1,511	585	3,019	4,698	7,719
1981	26,521	19,664	1,129	963	1,131	2,918	594	3,719	4,184	6,626
1982	26,844	19,498	1,187	1,015	1,511	2,918	588	3,302	3,752	6,285
1983	27,234	19,811	1,220	922	1,529	3,643	564	3,290	3,688	5,955
1984 2/.....	27,125	19,904	1,168	954	1,462	3,840	545	3,104	3,568	6,263
1985 2/.....	27,375	20,089	1,165	970	1,404	4,453	513	2,002	3,485	6,097
1986 2/.....	27,403	20,089	1,196	839	1,429	4,405	476	1,863	3,454	5,886
1987 2/.....	27,873	19,548	1,246	830	1,511	4,366	464	1,875	3,688	5,674
1988	26,505	18,896	1,219	774	1,385	4,318	470	1,763	3,594	5,373
1989	28,641	20,034	1,305	786	1,542	4,569	466	1,842	3,733	5,791
1990	30,559	21,143	1,299	877	1,605	4,946	506	1,824	4,000	6,086
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	14,116	11,363	332	273	761	185	96	1,808	4,077	3,831
1977	16,408	13,129	383	265	706	240	84	2,049	5,022	4,380
1978 1/.....	17,820	13,993	422	266	707	324	87	2,076	5,408	4,703
1979	19,387	14,970	463	268	710	436	92	2,104	5,820	5,077
1980	19,746	14,985	385	359	628	617	90	2,113	5,962	4,831
1981	21,853	16,303	460	344	754	970	133	2,198	6,617	4,827
1982	21,948	16,022	501	355	978	1,311	130	2,092	6,349	4,306
1983	23,701	17,410	499	341	983	1,667	188	2,156	7,340	4,236
1984 2/.....	24,622	18,029	486	372	949	1,604	190	2,104	7,473	4,651
1985 2/.....	24,545	17,607	518	358	941	1,568	187	2,046	7,333	4,656
1986 2/.....	24,772	17,840	521	335	898	1,816	178	1,984	7,441	4,667
1987 2/.....	25,176	17,716	525	324	870	1,688	201	1,878	7,646	4,584
1988	25,783	18,221	541	387	864	1,727	228	1,858	8,280	4,336
1989	27,286	19,510	516	385	935	1,757	217	1,961	8,996	4,743
1990	29,979	21,367	534	416	982	1,894	232	2,043	9,974	5,292

See explanatory information, if any, and SOURCE(S) at end of table.

Table D-2. Science and engineering graduate students in master's-granting institutions by sex and field: 1975-90

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Year	Engineering									Total, health fields
	Engi- neering, total	Aerospace engi- neering	Chemical engi- neering	Civil engi- neering	Electrical engi- neering	Industrial engi- neering	Mechanical engi- neering	Metallur- gical & materials engi- neering	Other engi- neering	
	Total enrollment									
1975	3,176	34	100	636	512	528	434	39	893	3,074
1976	3,287	28	115	663	517	507	378	42	1,037	3,765
1977	4,100	22	124	849	868	604	524	68	1,041	4,372
1978 1/	4,392	10	140	851	887	602	582	82	1,238	4,868
1979	4,751	5	159	857	908	600	649	100	1,473	5,339
1980	5,178	7	235	955	1,101	803	733	71	1,273	5,868
1981	6,091	7	235	1,199	1,293	838	705	78	1,736	6,516
1982	6,401	8	266	977	1,435	862	700	94	2,059	6,871
1983	6,628	32	224	885	1,668	827	822	109	2,061	7,086
1984 2/	6,544	32	189	832	1,707	880	889	85	1,930	7,270
1985 2/	6,729	32	165	827	1,753	994	911	120	1,927	7,495
1986 2/	7,299	33	142	885	2,068	1,052	1,133	131	1,855	7,488
1987 2/	7,675	35	149	1,093	2,311	1,003	1,214	122	1,748	8,004
1988	7,036	37	117	926	2,182	1,030	1,183	108	1,453	8,135
1989	7,937	67	113	992	2,948	1,235	1,279	120	1,183	8,446
1990	9,046	91	130	1,118	3,434	1,528	1,368	138	1,239	8,982
Men										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	3,062	28	100	585	507	486	369	39	948	1,237
1977	3,849	22	117	757	844	552	508	58	991	1,344
1978 1/	4,046	10	128	737	860	538	560	70	1,143	1,387
1979	4,244	5	136	714	875	517	615	85	1,297	1,429
1980	4,790	7	213	837	1,065	708	703	65	1,192	1,495
1981	5,492	7	204	1,087	1,216	722	673	64	1,519	1,365
1982	5,748	8	232	883	1,362	736	663	82	1,802	1,598
1983	5,921	31	189	784	1,520	721	781	96	1,799	1,502
1984 2/	5,763	31	161	726	1,529	708	837	75	1,696	1,458
1985 2/	5,830	31	134	701	1,577	761	842	92	1,692	1,456
1986 2/	6,329	32	121	759	1,844	814	1,045	104	1,610	1,526
1987 2/	6,636	32	123	919	2,043	827	1,093	102	1,497	1,583
1988	6,078	34	94	748	1,932	843	1,064	89	1,274	1,531
1989	6,894	63	93	810	2,600	1,036	1,158	94	1,040	1,713
1990	7,740	88	103	856	3,007	1,274	1,239	109	1,064	1,676
Women										
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	225	0	15	78	10	21	9	3	89	2,528
1977	251	0	7	92	24	52	16	10	50	3,028
1978 1/	346	0	12	114	27	64	22	12	95	3,481
1979	507	0	23	143	33	83	34	15	176	3,910
1980	388	0	22	118	36	95	30	6	81	4,373
1981	599	0	31	112	77	116	32	14	217	4,951
1982	653	0	34	94	93	126	37	12	257	5,273
1983	707	1	35	101	148	106	41	13	262	5,584
1984 2/	781	1	28	106	178	172	52	10	234	5,812
1985 2/	899	1	31	126	176	233	69	28	235	6,039
1986 2/	970	1	21	126	224	238	88	27	245	5,962
1987 2/	1,039	3	26	174	268	176	121	20	251	6,421
1988	958	3	23	178	250	187	119	19	179	6,604
1989	1,043	4	20	182	348	199	121	26	143	6,733
1990	1,306	5	27	262	427	254	129	29	175	7,306

1/ Master's-granting institutions were not surveyed and sex data were not requested in 1978; totals represent estimates based on 1977 and 1979 data.

2/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-3. Science and engineering graduate students in master's-granting institutions by field: 1982-90 1/

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	48,792	50,935	51,747	51,920	52,175	53,049	52,288	55,927	60,538
Total, science/engineering fields	41,921	43,849	44,477	44,425	44,687	45,045	44,153	47,481	51,556
Engineering, total	6,401	6,628	6,544	6,729	7,299	7,675	7,036	7,937	9,046
Aerospace	8	32	32	32	33	35	37	67	91
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	52	59	57	56	68	76	79	66	63
Chemical	260	211	177	135	121	121	86	99	116
Civil	977	885	832	827	885	1,093	926	992	1,118
Electrical	1,435	1,668	1,707	1,753	2,068	2,311	2,182	2,948	3,434
Engineering science	290	280	253	260	234	232	219	19	18
Industrial	862	827	880	994	1,052	1,003	1,030	1,235	1,528
Mechanical	700	822	889	911	1,133	1,214	1,183	1,279	1,368
Metallurgical/materials	94	109	85	120	131	122	108	120	138
Mining	25	26	25	26	25	29	39	30	28
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	6	13	12	30	21	28	31	14	14
Engineering, n.e.c.	1,692	1,696	1,595	1,585	1,528	1,611	1,116	1,068	1,130
Sciences, total	35,520	37,221	37,933	37,696	37,388	37,370	37,117	39,544	42,510
Physical sciences	1,688	1,719	1,654	1,683	1,717	1,771	1,760	1,821	1,833
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	1,222	1,253	1,157	1,157	1,143	1,157	1,096	1,104	1,083
Physics	291	299	350	380	429	480	525	544	593
Physical sciences, n.e.c.	175	167	147	146	145	134	139	173	157
Earth, atmospheric, and ocean sciences	1,370	1,263	1,326	1,328	1,174	1,154	1,161	1,171	1,293
Atmospheric sciences	12	12	12	13	5	4	11	12	4
Geosciences	573	633	654	761	643	613	591	506	543
Oceanography	157	156	173	97	101	105	107	137	135
Earth, atmos., and ocean sci., n.e.c.	628	462	487	457	425	432	452	516	611
Mathematical sciences	2,429	2,512	2,411	2,345	2,327	2,381	2,249	2,477	2,587
Computer sciences	4,229	5,310	5,444	6,021	6,221	6,054	6,045	6,326	6,840
Agricultural sciences	718	752	735	700	654	665	698	683	738
Biological sciences	4,394	4,446	4,208	4,048	3,847	3,753	3,621	3,803	3,867
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	34	40	30	34	33	45	32	39	34
Biology	3,509	3,520	3,369	3,181	2,939	2,884	2,810	2,887	2,973
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	42	45	33	28	48	45	44	38	51
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	33	45	54	50	56	64	65	72	94
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	50	49	47	45	43	41	42	44	44
Microbiology	138	125	97	105	94	95	66	64	62
Nutrition	235	258	254	309	334	312	301	342	308
Pathology	47	43	44	47	65	56	57	66	67
Pharmacology	11	6	5	2	1	1	1	2	0
Physiology	0	0	0	0	0	0	0	0	0
Zoology	32	40	37	32	18	16	12	14	13
Biosciences, n.e.c.	263	275	238	215	215	194	191	235	221
Psychology	10,101	11,028	11,041	10,818	10,895	11,334	11,874	12,729	13,974
Social sciences	10,591	10,191	11,114	10,753	10,553	10,258	9,709	10,534	11,378
Agricultural economics	44	58	67	68	64	51	50	49	41
Anthropology	260	245	219	223	213	227	235	212	250
Economics (except agricultural)	1,083	1,147	1,087	1,111	946	896	833	860	764
Geography	448	420	431	394	464	521	570	662	680
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	129	209	240	251	290	362	374	436	484
Political science	6,052	5,573	5,581	5,577	5,442	5,170	5,453	5,933	6,284
Sociology	576	544	618	565	603	615	606	694	816
Sociology/anthropology	91	186	115	128	117	100	79	76	87
Social sciences, n.e.c.	1,908	1,809	2,756	2,436	2,414	2,316	1,509	1,612	1,972
Total, health fields	6,871	7,086	7,270	7,495	7,488	8,004	8,135	8,446	8,982
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	14	14	14	13	10	22	14	9	20
Nursing	1,893	1,959	2,076	2,230	2,230	2,446	2,695	2,900	3,078
Pharmaceutical sciences	11	18	184	186	187	201	142	139	188
Preventive medicine/community health	140	187	184	186	187	201	142	139	188
Speech pathology/audiology	1,865	1,999	1,973	2,005	1,927	1,950	1,811	2,014	2,167
Veterinary sciences	25	26	26	27	23	20	17	19	19
Clinical medicine, n.e.c.	426	343	263	229	250	238	226	201	166
Health related, n.e.c.	2,497	2,542	2,717	2,788	2,851	3,112	3,226	3,156	3,342

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-4. Male science and engineering graduate students in master's-granting institutions by field: 1982-90 1/

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	26,844	27,234	27,125	27,375	27,403	27,873	26,505	28,641	30,559
Total, science/engineering fields	25,246	25,732	25,667	25,919	25,877	26,290	24,974	26,928	28,883
Engineering, total	5,748	5,921	5,763	5,830	6,329	6,636	6,078	6,894	7,740
Aerospace	8	31	31	31	32	32	34	63	88
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	43	42	41	48	59	59	62	60	58
Chemical	226	176	149	109	102	100	67	79	90
Civil	883	784	726	701	759	919	748	810	856
Electrical	1,342	1,520	1,529	1,577	1,844	2,043	1,932	2,600	3,007
Engineering science	246	231	212	216	190	192	189	13	14
Industrial	736	721	708	761	814	827	843	1,036	1,274
Mechanical	663	781	837	842	1,045	1,093	1,064	1,158	1,239
Metallurgical/materials	82	96	75	92	104	102	89	94	109
Mining	23	21	21	23	23	28	31	20	18
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	6	13	12	25	19	23	27	14	13
Engineering, n.e.c.	1,490	1,505	1,422	1,405	1,338	1,218	992	947	974
Sciences, total	19,498	19,811	19,904	20,089	19,548	19,654	18,896	20,034	21,143
Physical sciences	1,187	1,220	1,168	1,165	1,196	1,246	1,219	1,305	1,299
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	831	848	776	753	744	728	680	721	696
Physics	251	253	288	312	352	420	450	461	491
Physical sciences, n.e.c.	105	119	104	100	100	98	89	123	112
Earth, atmospheric, and ocean sciences	1,015	922	954	970	839	830	774	786	877
Atmospheric sciences	10	10	10	11	5	4	11	9	4
Geosciences	452	499	505	597	503	470	412	370	390
Oceanography	99	114	114	62	65	67	65	81	73
Earth, atmos., and ocean sci., n.e.c.	454	306	325	300	266	289	286	326	410
Mathematical sciences	1,451	1,529	1,462	1,404	1,429	1,511	1,385	1,542	1,605
Computer sciences	2,918	3,643	3,840	4,453	4,405	4,366	4,318	4,569	4,946
Agricultural sciences	588	564	545	513	476	464	470	466	506
Biological sciences	2,302	2,290	2,104	2,002	1,863	1,875	1,763	1,842	1,824
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	23	21	10	14	14	23	9	24	24
Biology	1,913	1,943	1,812	1,721	1,567	1,574	1,523	1,527	1,512
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	26	29	26	19	36	33	31	26	30
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	21	23	27	23	28	33	25	29	32
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	4	3	2	2	2	1	1	2	1
Microbiology	68	50	35	40	37	41	24	29	27
Nutrition	37	28	41	45	42	42	31	62	64
Pathology	40	28	26	24	33	32	30	35	33
Pharmacology	4	3	3	0	0	0	1	2	0
Physiology	0	0	0	0	0	0	0	0	0
Zoology	21	21	19	17	11	8	6	6	7
Biosciences, n.e.c.	145	141	103	97	93	86	82	106	94
Psychology	3,752	3,688	3,568	3,485	3,454	3,688	3,594	3,733	4,000
Social sciences	6,285	5,955	6,263	6,097	5,886	5,674	5,373	5,791	6,086
Agricultural economics	38	47	56	58	58	44	42	33	33
Anthropology	118	101	81	118	102	87	82	100	113
Economics (except agricultural)	755	789	775	802	668	618	582	572	526
Geography	305	287	274	271	301	328	367	420	419
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	24	52	63	46	58	72	85	88	95
Political science	3,632	3,351	3,345	3,290	3,158	3,004	3,042	3,314	3,364
Sociology	231	209	264	249	256	247	274	311	355
Sociology/anthropology	51	81	51	53	46	43	39	39	37
Social sciences, n.e.c.	1,131	1,038	1,354	1,210	1,239	1,231	858	905	1,144
Total, health fields	1,598	1,502	1,458	1,456	1,526	1,583	1,531	1,713	1,676
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	6	14	14	7	5	13	7	5	7
Nursing	92	133	143	155	209	170	221	323	263
Pharmaceutical sciences	7	9	11	12	4	2	2	4	1
Preventive medicine/community health	23	56	56	40	40	42	40	34	49
Speech pathology/audiology	170	131	167	140	145	115	124	186	171
Veterinary sciences	16	12	20	22	17	13	15	14	14
Clinical medicine, n.e.c.	139	100	56	49	61	53	47	35	48
Health related, n.e.c.	1,145	1,047	991	1,031	1,042	1,168	1,077	1,111	1,123

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-5. Male science and engineering graduate students in master's-granting institutions by geographic distribution: 1982-90 1/

Geographic distribution	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	26,844	27,234	27,125	27,375	27,403	27,873	26,505	28,641	30,559
New England	2,759	2,751	1,757	1,923	1,532	1,557	2,273	2,370	2,394
Connecticut	2,124	2,169	1,757	1,923	1,531	1,556	1,693	1,799	1,770
Maine	0	0	0	0	0	0	0	0	0
Massachusetts	583	508	0	0	0	0	484	447	469
New Hampshire	30	34	0	0	0	0	75	86	102
Rhode Island	19	28	0	0	0	0	14	20	32
Vermont	3	12	0	0	1	1	7	18	21
Middle Atlantic	4,374	4,563	1,962	1,919	1,785	2,011	4,454	4,823	5,295
New Jersey	524	527	394	281	314	529	438	472	669
New York	2,695	3,076	1,416	1,490	1,373	1,329	2,942	3,134	3,319
Pennsylvania	1,155	960	152	148	98	153	1,074	1,217	1,307
East North Central	2,868	2,961	1,793	1,779	1,853	1,864	3,404	3,614	3,901
Illinois	1,547	1,592	1,066	1,069	1,132	1,172	1,869	1,936	2,050
Indiana	171	185	70	89	82	70	248	188	189
Michigan	355	437	601	553	560	552	586	654	669
Ohio	218	230	0	0	0	0	193	218	240
Wisconsin	577	517	56	68	79	70	508	618	753
West North Central	889	962	84	67	54	60	1,104	1,301	1,128
Iowa	62	66	0	0	0	0	85	91	84
Kansas	312	333	10	12	13	14	146	285	283
Minnesota	282	321	0	0	0	0	652	680	473
Missouri	224	212	74	55	41	46	208	210	273
Nebraska	6	10	0	0	0	0	13	35	15
North Dakota	0	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0	0
South Atlantic	2,343	2,291	1,589	1,388	1,452	1,441	2,382	2,553	2,580
Delaware	0	0	0	0	0	0	0	7	10
District of Columbia	59	60	96	61	56	59	69	29	28
Florida	182	192	24	12	19	13	179	170	223
Georgia	266	143	0	0	0	0	299	365	338
Maryland	862	843	735	643	633	704	817	887	823
North Carolina	419	504	398	339	382	340	604	634	662
South Carolina	77	71	48	49	49	47	36	65	56
Virginia	134	142	59	74	89	69	150	169	175
West Virginia	344	336	229	210	224	209	228	227	265
East South Central	1,202	1,350	973	756	799	695	1,530	1,526	1,509
Alabama	404	389	305	290	288	257	373	382	443
Kentucky	320	352	0	0	0	0	524	584	425
Mississippi	93	139	171	150	187	146	150	114	134
Tennessee	385	470	497	316	324	292	483	446	507
West South Central	2,673	2,746	1,007	1,246	1,201	1,271	2,267	2,524	2,848
Arkansas	215	213	0	0	0	0	212	195	195
Louisiana	203	169	96	81	102	77	223	183	230
Oklahoma	61	53	36	49	44	33	40	45	97
Texas	2,194	2,311	875	1,116	1,055	1,161	1,792	2,101	2,326
Mountain	250	244	85	101	98	117	288	280	711
Arizona	0	0	0	0	0	0	0	0	0
Colorado	17	8	0	0	0	0	3	0	412
Idaho	0	0	0	0	0	0	0	0	0
Montana	52	63	47	55	60	69	85	69	65
Nevada	87	96	0	0	0	0	142	153	162
New Mexico	94	77	38	46	38	48	58	58	72
Utah	0	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0	0
Pacific	9,461	9,343	6,421	6,653	6,989	7,127	8,803	9,650	10,193
Alaska	146	120	0	0	0	0	75	71	99
California	8,599	8,385	6,421	6,653	6,989	7,127	8,227	9,069	9,594
Hawaii	113	0	0	0	0	0	0	0	0
Oregon	0	120	0	0	0	0	36	32	25
Washington	603	718	0	0	0	0	465	478	475
Outlying areas	25	23	0	0	0	0	0	0	0
State unknown 2/.....	0	0	11,454	11,543	11,640	11,730	0	0	0

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

2/ These numbers represent the total of all non-sampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-6. Female science and engineering graduate students in master's-granting institutions by field: 1982-90 1/

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	21,948	23,701	24,622	24,545	24,772	25,176	25,783	27,286	29,979
Total, science/engineering fields	16,675	18,117	18,810	18,506	18,810	18,755	19,179	20,553	22,673
Engineering, total	653	707	781	899	970	1,039	958	1,043	1,306
Aerospace	0	1	1	1	1	3	3	4	3
Agricultural	9	0	0	0	0	0	0	0	0
Biomedical	9	17	16	8	9	17	17	6	5
Chemical	34	35	28	26	19	21	19	20	26
Civil	94	101	106	126	126	174	178	182	262
Electrical	93	148	178	176	224	268	250	348	427
Engineering science	44	49	41	44	44	40	30	6	4
Industrial	126	106	172	233	238	176	187	199	254
Mechanical	37	41	52	69	88	121	119	121	129
Metallurgical/materials	12	13	10	28	27	20	19	26	29
Mining	2	0	4	3	2	1	8	10	10
Nuclear	0	0	0	5	2	5	0	0	0
Petroleum	0	0	0	0	0	0	4	0	1
Engineering, n.e.c.	202	191	173	180	190	193	124	121	156
Sciences, total	16,022	17,410	18,029	17,607	17,840	17,716	18,221	19,510	21,367
Physical sciences	501	499	486	518	521	525	541	516	534
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	391	405	381	404	399	429	416	383	387
Physics	40	46	62	68	77	60	75	83	102
Physical sciences, n.e.c.	70	48	43	46	45	36	50	50	45
Earth, atmospheric, and ocean sciences	355	341	372	358	335	324	387	385	416
Atmospheric sciences	2	2	2	2	0	0	0	3	0
Geosciences	121	134	149	164	140	143	179	136	153
Oceanography	58	49	59	35	36	38	42	56	62
Earth, atmos., and ocean sci., n.e.c.	174	156	162	157	159	143	166	190	201
Mathematical sciences	978	983	949	941	898	870	864	935	982
Computer sciences	1,311	1,667	1,604	1,568	1,816	1,688	1,727	1,757	1,894
Agricultural sciences	130	188	190	187	178	201	228	217	232
Biological sciences	2,092	2,156	2,104	2,046	1,984	1,878	1,858	1,961	2,043
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	11	19	20	20	19	22	23	15	10
Biology	1,596	1,577	1,557	1,460	1,372	1,310	1,287	1,360	1,461
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	7	9	12	12	13	18	21
Botany	16	16	7	9	12	12	13	18	21
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	12	22	27	27	28	31	40	43	62
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	46	46	45	43	41	39	41	42	43
Microbiology	70	75	62	65	57	54	42	35	35
Nutrition	198	230	213	264	292	270	270	280	244
Pathology	7	15	18	23	32	24	27	31	34
Pharmacology	0	3	0	0	0	0	0	0	0
Physiology	0	0	0	0	0	0	0	0	0
Zoology	11	19	18	15	7	8	6	8	6
Biosciences, n.e.c.	118	134	135	118	122	108	109	129	127
Psychology	6,349	7,340	7,473	7,333	7,441	7,646	8,280	8,996	9,974
Social sciences	4,306	4,236	4,851	4,656	4,667	4,584	4,336	4,743	5,292
Agricultural economics	6	11	11	10	6	7	6	7	8
Anthropology	142	144	138	105	111	140	153	112	137
Economics (except agricultural)	328	358	312	309	278	278	251	288	238
Geography	143	133	157	123	163	193	203	242	261
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	105	157	177	205	232	290	289	348	389
Political science	2,420	2,222	2,236	2,287	2,284	2,166	2,411	2,619	2,920
Sociology	345	335	354	316	347	368	332	383	461
Sociology/anthropology	40	105	64	75	71	57	40	37	50
Social sciences, n.e.c.	777	771	1,402	1,226	1,175	1,085	651	707	828
Total, health fields	5,273	5,584	5,812	6,039	5,962	6,421	6,604	6,733	7,306
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	8	0	0	6	5	9	7	4	13
Nursing	1,801	1,826	1,931	2,075	2,021	2,276	2,474	2,577	2,815
Pharmaceutical sciences	4	7	8	8	6	3	2	4	1
Preventive medicine/community health	117	131	128	146	147	156	102	105	139
Speech pathology/audiology	1,695	1,868	1,806	1,862	1,782	1,845	1,687	1,828	1,996
Veterinary sciences	9	14	6	5	3	3	4	4	5
Clinical medicine, n.e.c.	287	243	207	189	189	185	179	166	118
Health related, n.e.c.	1,352	1,495	1,726	1,757	1,809	1,944	2,149	2,045	2,219

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-7. Female science and engineering graduate students in master's-granting institutions
by geographic distribution: 1982-90 1/

Geographic distribution	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	21,948	23,701	24,622	24,545	24,772	25,176	25,783	27,286	29,979
New England	1,780	1,822	703	538	705	709	1,987	1,940	2,082
Connecticut	931	957	700	538	704	708	1,015	982	1,108
Maine	0	0	0	0	0	0	0	0	0
Massachusetts	772	763	0	0	0	0	864	816	842
New Hampshire	27	29	0	0	0	0	55	59	51
Rhode Island	48	45	0	0	0	0	36	35	21
Vermont	2	28	3	0	1	1	17	28	30
Middle Atlantic	3,765	4,172	1,684	1,620	1,562	1,258	4,305	4,756	5,382
New Jersey	526	571	414	282	337	0	279	249	331
New York	2,386	2,692	1,089	1,162	1,084	1,107	2,909	3,196	3,565
Pennsylvania	853	909	181	176	141	151	1,117	1,311	1,486
East North Central	2,718	2,923	1,905	1,977	2,122	2,083	3,639	3,726	3,961
Illinois	1,649	1,761	1,306	1,365	1,363	1,424	2,014	2,201	2,222
Indiana	218	239	142	155	164	142	437	215	225
Michigan	187	245	369	398	538	448	513	602	697
Ohio	120	128	0	0	0	0	144	141	187
Wisconsin	544	550	88	59	57	69	531	567	630
West North Central	885	1,050	96	94	96	84	1,211	1,578	1,653
Iowa	61	56	0	0	0	0	49	130	129
Kansas	283	346	20	20	22	17	111	266	281
Minnesota	272	378	0	0	0	0	800	885	798
Missouri	265	265	76	74	74	67	244	281	403
Nebraska	4	5	0	0	0	0	7	16	42
North Dakota	0	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0	0
South Atlantic	2,244	2,350	1,674	1,544	1,540	1,506	2,562	2,960	3,240
Delaware	0	0	0	0	0	0	0	11	11
District of Columbia	78	84	96	87	80	60	81	68	71
Florida	139	154	8	21	9	5	142	155	195
Georgia	192	152	0	0	0	0	230	332	456
Maryland	982	1,032	975	865	901	871	1,082	1,212	1,234
North Carolina	324	359	222	256	251	271	442	510	587
South Carolina	94	86	23	27	26	25	81	84	81
Virginia	251	268	173	137	135	132	315	409	405
West Virginia	184	215	177	151	138	142	189	179	200
East South Central	838	1,034	491	488	479	444	1,182	1,170	1,356
Alabama	196	252	137	138	129	101	246	270	293
Kentucky	193	215	0	0	0	0	376	343	321
Mississippi	133	148	141	121	136	104	141	130	135
Tennessee	316	419	213	229	214	239	419	427	607
West South Central	2,210	2,375	969	1,078	1,050	1,136	2,362	2,649	2,994
Arkansas	243	335	0	0	0	0	458	492	588
Louisiana	258	293	188	180	155	143	281	328	349
Oklahoma	50	38	32	35	34	36	42	35	118
Texas	1,659	1,709	749	863	861	957	1,581	1,794	1,939
Mountain	264	225	56	72	47	73	195	258	334
Arizona	0	0	0	0	0	0	0	0	0
Colorado	28	6	0	0	0	0	3	0	75
Idaho	0	0	0	0	0	0	0	0	0
Montana	7	12	9	14	9	10	24	25	26
Nevada	100	94	0	0	0	0	92	141	149
New Mexico	129	113	47	58	38	63	76	92	84
Utah	0	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0	0
Pacific	7,234	7,738	5,007	4,980	4,908	5,504	8,340	8,249	8,977
Alaska	63	60	0	0	0	0	58	65	94
California	6,596	7,165	5,007	4,980	4,908	5,504	7,781	7,656	8,289
Hawaii	0	0	0	0	0	0	0	0	0
Oregon	123	145	0	0	0	0	18	31	46
Washington	452	368	0	0	0	0	483	497	548
Outlying areas	10	12	0	0	0	0	0	0	0
State unknown 2/	0	0	12,037	12,154	12,263	12,379	0	0	0

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

2/ These numbers represent the total of all non-sampled master's-granting institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-8. Science and engineering graduate students in public master's-granting institutions by field: 1982-90 1/

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	33,752	34,972	35,489	35,655	36,537	37,616	36,985	39,998	42,757
Total, science/engineering fields	29,129	30,263	30,653	30,724	31,589	32,305	31,640	34,270	36,863
Engineering, total	3,870	3,851	3,781	3,843	4,357	4,646	4,024	4,553	4,922
Aerospace	0	0	1	2	3	4	6	27	25
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	34	40	35	31	41	52	69	49	47
Chemical	147	114	90	58	54	64	40	54	82
Civil	737	648	612	593	645	855	679	716	749
Electrical	759	733	739	769	1,049	1,271	1,105	1,474	1,623
Engineering science	12	4	8	10	9	6	7	12	12
Industrial	429	508	565	650	703	629	656	723	714
Mechanical	316	329	353	356	523	554	501	574	649
Metallurgical/materials	35	46	35	54	71	54	45	62	81
Mining	25	26	25	26	25	29	39	30	28
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	6	13	12	30	21	28	31	14	14
Engineering, n.e.c.	1,370	1,390	1,306	1,264	1,213	1,100	846	818	898
Sciences, total	25,259	26,412	26,872	26,881	27,232	27,659	27,616	29,717	31,941
Physical sciences	1,313	1,361	1,348	1,362	1,405	1,447	1,440	1,523	1,553
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	896	950	908	893	896	904	848	867	864
Physics	242	244	293	323	364	409	453	483	532
Physical sciences, n.e.c.	175	167	147	146	145	134	139	173	157
Earth, atmospheric, and ocean sciences	1,320	1,222	1,286	1,291	1,128	1,100	1,090	1,077	1,184
Atmospheric sciences	12	12	12	13	5	4	11	12	4
Geosciences	573	633	654	761	643	613	591	506	543
Oceanography	157	156	173	97	101	105	107	117	117
Earth, atmos., and ocean sci., n.e.c.	578	421	447	420	379	378	381	442	520
Mathematical sciences	2,227	2,308	2,094	2,005	2,027	2,015	1,896	2,111	2,237
Computer sciences	2,354	2,891	2,966	3,512	3,803	3,743	3,731	3,935	4,006
Agricultural sciences	673	714	702	670	635	649	668	652	695
Biological sciences	3,453	3,608	3,457	3,332	3,165	3,121	3,000	3,121	3,180
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	0	0	0	0	0	14	9	13	10
Biology	2,965	3,062	2,967	2,826	2,648	2,607	2,571	2,654	2,725
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	32	35	27	27	48	45	43	36	49
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	8	21	30	26	32	36	32	35	44
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	0	0	0	0	0	0	0	0	0
Microbiology	78	75	47	54	43	45	28	39	39
Nutrition	169	187	193	233	248	240	202	211	178
Pathology	25	22	19	19	25	25	25	31	28
Pharmacology	0	0	0	0	0	0	0	0	0
Physiology	0	0	0	0	0	0	0	0	0
Zoology	13	26	24	22	16	14	10	13	13
Biosciences, n.e.c.	163	180	150	125	105	95	80	89	94
Psychology	6,379	7,140	7,158	7,044	7,124	7,460	7,795	8,524	9,255
Social sciences	7,540	7,168	7,861	7,665	7,945	8,124	7,996	8,774	9,831
Agricultural economics	44	58	67	68	64	51	50	49	41
Anthropology	260	244	219	223	213	227	235	212	250
Economics (except agricultural)	652	573	602	651	646	610	602	602	672
Geography	447	418	429	392	462	519	570	662	680
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	129	209	240	251	290	362	374	436	484
Political science	4,030	3,726	3,708	3,725	3,784	3,837	4,273	4,748	5,164
Sociology	549	515	592	542	577	586	576	637	760
Sociology/anthropology	56	57	47	47	42	42	40	40	56
Social sciences, n.e.c.	1,373	1,368	1,957	1,766	1,867	1,890	1,276	1,388	1,724
Total, health fields	4,623	4,709	4,836	4,931	4,948	5,311	5,345	5,728	5,894
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	0	0	0	0	0
Nursing	1,096	1,100	1,268	1,397	1,457	1,629	1,711	1,823	1,818
Pharmaceutical sciences	0	0	0	0	0	0	0	0	0
Preventive medicine/community health ...	105	125	131	142	152	175	142	139	188
Speech pathology/audiology	1,675	1,821	1,762	1,733	1,666	1,688	1,661	1,779	1,923
Veterinary sciences	0	0	0	0	0	0	0	0	0
Clinical medicine, n.e.c.	191	161	139	123	160	155	148	150	130
Health related, n.e.c.	1,556	1,502	1,536	1,536	1,513	1,664	1,683	1,837	1,835

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-9. Science and engineering graduate students in private master's-granting institutions by field: 1982-90 1/

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	15,040	15,963	16,258	16,265	15,638	15,433	15,303	15,929	17,781
Total, science/engineering fields	12,792	13,586	13,824	13,701	13,098	12,740	12,513	13,211	14,693
Engineering, total	2,531	2,777	2,763	2,886	2,942	3,029	3,012	3,384	4,124
Aerospace	8	32	31	30	30	31	31	40	56
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	18	19	23	25	27	24	10	17	16
Chemical	113	237	220	234	240	238	247	276	369
Civil	240	235	220	234	240	238	247	276	369
Electrical	676	935	968	984	1,019	1,040	1,077	1,474	1,811
Engineering science	278	276	245	250	255	226	212	7	6
Industrial	435	319	315	344	349	374	374	512	814
Mechanical	382	493	536	555	610	660	682	705	719
Metallurgical/materials	59	63	50	66	60	68	63	58	57
Mining	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	322	306	289	321	315	311	270	250	232
Sciences, total	10,261	10,809	11,061	10,815	10,156	9,711	9,501	9,827	10,569
Physical sciences	375	358	306	321	312	324	320	298	280
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	326	303	249	264	247	253	248	237	219
Physics	49	55	57	57	65	71	72	61	61
Physical sciences, n.e.c.	0	0	0	0	0	0	0	0	0
Earth, atmospheric, and ocean sciences	50	41	40	37	46	54	71	94	109
Atmospheric sciences	0	0	0	0	0	0	0	0	0
Geosciences	0	0	0	0	0	0	0	0	0
Oceanography	0	0	0	0	0	0	0	20	18
Earth, atmos., and ocean sci., n.e.c.	50	41	40	37	46	54	71	74	91
Mathematical sciences	202	204	317	340	300	366	353	366	350
Computer sciences	1,875	2,419	2,478	2,509	2,418	2,311	2,314	2,391	2,834
Agricultural sciences	45	38	33	30	19	16	30	31	43
Biological sciences	941	838	751	716	682	632	621	682	687
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	34	40	30	34	33	31	23	26	24
Biology	544	458	402	355	291	277	239	233	248
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	10	10	6	1	0	0	1	2	2
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	25	24	24	24	24	28	33	37	50
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	50	49	47	45	43	41	42	44	44
Microbiology	60	50	50	51	51	50	38	25	23
Nutrition	66	71	61	76	86	72	99	131	130
Pathology	22	21	25	28	40	31	32	35	39
Pharmacology	11	6	5	2	2	1	1	2	0
Physiology	0	0	0	0	0	0	0	0	0
Zoology	19	14	13	10	2	2	2	1	0
Biosciences, n.e.c.	100	95	88	90	110	99	111	146	127
Psychology	3,722	3,888	3,883	3,774	3,771	3,874	4,079	4,205	4,719
Social sciences	3,051	3,023	3,253	3,088	2,608	2,134	1,713	1,760	1,547
Agricultural economics	0	0	0	0	0	0	0	0	0
Anthropology	0	1	0	0	0	0	0	0	0
Economics (except agricultural)	431	574	485	460	300	286	231	258	92
Geography	1	2	2	2	2	2	0	0	0
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	0	0	0	0	0	0	0	0	0
Political science	2,022	1,847	1,873	1,852	1,658	1,333	1,180	1,185	1,120
Sociology	27	29	26	23	26	29	30	57	56
Sociology/anthropology	35	129	68	81	75	58	39	36	31
Social sciences, n.e.c.	535	441	799	670	547	426	233	224	248
Total, health fields	2,248	2,377	2,434	2,564	2,540	2,693	2,790	2,718	3,088
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	14	14	14	13	10	22	14	9	20
Nursing	797	859	806	833	773	817	984	1,077	1,260
Pharmaceutical sciences	11	16	19	20	10	5	4	8	2
Preventive medicine/community health	35	62	53	44	35	26	0	0	0
Speech pathology/audiology	190	178	211	269	261	272	150	235	244
Veterinary sciences	25	26	26	27	23	20	17	19	19
Clinical medicine, n.e.c.	235	182	124	106	90	83	78	51	36
Health related, n.e.c.	941	1,040	1,181	1,252	1,338	1,448	1,543	1,319	1,507

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-10. Science and engineering graduate students in master's-granting institutions by enrollment status and citizenship, and racial/ethnic background of U.S. citizens: 1982-90 1/

Enrollment status, citizenship, and racial/ethnic background	1982 2/	1983	1984	1985	1986	1987	1988	1989	1990
Total enrollment	48,792	50,935	51,747	51,920	52,175	53,049	52,288	55,927	60,538
Total U.S. citizens	NA	46,348	47,146	47,332	47,435	48,255	47,344	50,442	54,307
Black, non-Hispanic	2,794	3,342	3,401	3,195	3,201	3,085	3,241	3,489	3,908
American Indian/Alaskan Native	213	227	148	143	161	181	207	163	182
Asian/Pacific Islander	1,264	1,750	1,785	1,854	1,846	2,147	2,285	2,677	2,658
Hispanic	1,228	1,778	1,668	1,374	1,204	1,374	1,555	1,592	1,794
White, non-Hispanic	31,523	34,164	34,628	33,889	33,583	34,715	35,874	37,663	40,993
Other or unknown	NA	5,087	5,516	6,877	7,440	6,753	4,182	4,858	4,772
Non-U.S. citizens	NA	4,587	4,601	4,588	4,740	4,794	4,944	5,485	6,231
Full-time enrollment	16,186	17,621	18,137	17,862	17,934	18,534	18,263	19,052	20,574
Total U.S. citizens	13,670	14,876	15,268	15,065	15,022	15,519	15,215	15,872	16,927
Black, non-Hispanic	1,130	1,337	1,368	1,144	1,177	1,138	1,214	1,298	1,414
American Indian/Alaskan Native	82	116	74	62	61	82	84	60	62
Asian/Pacific Islander	413	566	552	568	563	658	662	826	827
Hispanic	415	633	560	440	404	436	468	501	586
White, non-Hispanic	9,625	10,734	11,115	10,575	10,696	11,368	11,274	11,765	12,487
Other or unknown	2,005	1,490	1,599	2,276	2,121	1,837	1,513	1,422	1,551
Non-U.S. citizens	2,516	2,745	2,869	2,797	2,912	3,015	3,048	3,180	3,647
Part-time enrollment	32,606	33,314	33,610	34,058	34,241	34,515	34,025	36,875	39,964
Total U.S. citizens	NA	31,472	31,878	32,267	32,413	32,736	32,129	34,570	37,380
Black, non-Hispanic	1,664	2,005	2,033	2,051	2,024	1,947	2,027	2,191	2,494
American Indian/Alaskan Native	131	111	74	81	100	99	123	103	120
Asian/Pacific Islander	851	1,184	1,233	1,286	1,283	1,489	1,623	1,851	1,831
Hispanic	813	1,145	1,108	934	800	938	1,087	1,091	1,208
White, non-Hispanic	21,898	23,430	23,513	23,314	22,887	23,347	24,600	25,898	28,506
Other or unknown	NA	3,597	3,917	4,601	5,319	4,916	5,669	5,436	5,221
Non-U.S. citizens	NA	1,842	1,732	1,791	1,828	1,779	1,896	2,305	2,584

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

2/ For part-time students, distribution by citizenship was first requested in 1982 and did not become a standard question until 1983.

NOTE: NA = Not available

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-11. Full-time science and engineering graduate students in master's-granting institutions by field: 1982-90 1/

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	16,186	17,621	18,137	17,862	17,934	18,534	18,263	19,052	20,574
Total, science/engineering fields	13,816	15,071	15,597	15,284	15,356	15,765	15,581	16,349	17,608
Engineering, total	1,541	1,637	1,565	1,476	1,695	1,842	1,921	2,183	2,378
Aerospace	3	15	14	14	16	17	16	30	64
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	23	19	15	12	14	40	53	39	37
Chemical	84	79	78	52	52	42	29	37	33
Civil	330	274	236	242	278	271	328	331	281
Electrical	256	349	396	394	490	583	641	799	831
Engineering science	25	17	16	18	18	17	13	10	11
Industrial	241	192	162	175	171	188	222	269	423
Mechanical	139	152	187	192	202	209	240	279	338
Metallurgical/materials	25	18	9	18	30	27	23	28	24
Mining	22	24	21	20	23	29	36	26	28
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	6	13	12	26	21	25	29	12	9
Engineering, n.e.c.	387	485	419	313	380	394	291	323	299
Sciences, total	12,275	13,434	14,032	13,808	13,661	13,923	13,660	14,166	15,230
Physical sciences	701	703	705	731	695	762	796	764	728
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	532	528	508	513	460	500	506	447	402
Physics	131	134	164	184	204	226	265	279	291
Physical sciences, n.e.c.	38	41	33	34	31	36	25	38	35
Earth, atmospheric, and ocean sciences	518	552	553	568	461	446	459	423	447
Atmospheric sciences	8	7	6	5	1	2	4	7	0
Geosciences	236	295	296	353	274	255	254	198	234
Oceanography	42	65	81	42	42	48	53	54	55
Earth, atmos., and ocean sci., n.e.c.	232	185	170	168	144	141	148	164	158
Mathematical sciences	645	648	706	673	671	704	714	681	668
Computer sciences	1,260	1,411	1,479	1,727	1,921	1,933	1,895	1,938	2,171
Agricultural sciences	372	416	427	376	377	372	398	388	409
Biological sciences	1,741	1,878	1,792	1,666	1,569	1,553	1,513	1,541	1,553
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	18	26	18	17	15	14	9	16	15
Biology	1,405	1,491	1,436	1,337	1,229	1,228	1,212	1,219	1,231
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	26	30	24	22	39	40	36	33	43
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	5	9	12	12	13	12	14	7	6
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	47	45	44	43	42	41	41	43	42
Microbiology	18	24	23	12	18	19	13	9	14
Nutrition	87	106	123	124	127	122	118	137	107
Pathology	7	5	6	7	5	15	9	15	28
Pharmacology	1	2	1	0	0	0	0	0	0
Physiology	0	0	0	0	0	0	0	0	0
Zoology	18	27	19	19	12	12	11	8	6
Biosciences, n.e.c.	109	113	86	73	69	50	50	54	61
Psychology	3,918	4,551	4,508	4,435	4,526	4,868	5,104	5,511	6,062
Social sciences	3,120	3,275	3,862	3,632	3,441	3,285	2,781	2,920	3,192
Agricultural economics	22	53	52	44	49	34	31	27	27
Anthropology	78	74	68	111	55	71	77	75	83
Economics (except agricultural)	392	356	346	361	335	320	285	290	273
Geography	152	177	178	174	166	216	233	243	238
History and philosophy of science	12	59	55	34	51	61	82	79	50
Linguistics	0	0	0	0	0	0	0	0	0
Political science	1,534	1,575	1,738	1,623	1,586	1,379	1,353	1,464	1,642
Sociology	227	228	321	283	248	283	256	289	345
Sociology/anthropology	45	75	34	31	34	33	28	26	38
Social sciences, n.e.c.	658	678	1,070	971	917	888	396	427	498
Total, health fields	2,370	2,550	2,540	2,578	2,578	2,769	2,682	2,703	2,966
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	14	14	14	13	3	5	7	3	10
Nursing	416	478	431	509	499	574	691	669	682
Pharmaceutical sciences	1	2	2	2	0	1	1	0	0
Preventive medicine/community health	27	35	40	47	47	50	44	35	58
Speech pathology/audiology	917	918	973	1,001	1,051	1,075	1,000	1,168	1,244
Veterinary sciences	22	26	23	24	20	17	17	19	11
Clinical medicine, n.e.c.	94	95	60	48	63	50	46	52	47
Health related, n.e.c.	879	982	997	934	895	997	876	757	914

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table D-12. Part-time science and engineering graduate students in master's-granting institutions by field: 1982-90 1/

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	32,606	33,314	33,610	34,058	34,241	34,515	34,025	36,875	39,964
Total, science/engineering fields	28,105	28,778	28,880	29,141	29,331	29,280	28,572	31,132	33,948
Engineering, total	4,860	4,991	4,979	5,253	5,604	5,833	5,115	5,754	6,668
Aerospace	5	17	18	18	17	18	21	37	27
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	29	40	42	44	54	36	26	27	26
Chemical	176	132	99	83	69	79	57	62	83
Civil	647	611	596	585	607	822	598	661	837
Electrical	1,179	1,319	1,311	1,359	1,578	1,728	1,541	2,149	2,603
Engineering science	265	263	237	242	216	215	206	9	7
Industrial	621	635	718	819	881	815	808	966	1,105
Mechanical	561	670	702	719	931	1,005	943	1,000	1,030
Metallurgical/materials	69	91	76	102	101	95	85	92	114
Mining	3	2	4	6	2	0	3	4	0
Nuclear	0	0	0	0	0	0	0	0	0
Petroleum	0	0	0	4	0	3	2	2	5
Engineering, n.e.c.	1,305	1,211	1,176	1,272	1,148	1,017	825	745	831
Sciences, total	23,245	23,787	23,901	23,888	23,727	23,447	23,457	25,378	27,280
Physical sciences	987	1,016	949	952	1,022	1,009	964	1,057	1,105
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	690	725	649	644	683	657	590	657	681
Physics	160	165	186	196	225	254	260	265	302
Physical sciences, n.e.c.	137	126	114	112	114	98	114	135	122
Earth, atmospheric, and ocean sciences	852	711	773	760	713	708	702	748	846
Atmospheric sciences	4	5	6	8	4	2	7	5	4
Geosciences	337	338	358	408	369	358	337	308	309
Oceanography	115	91	92	55	59	57	83	83	80
Earth, atmos., and ocean sci., n.e.c.	396	277	317	289	281	291	304	352	453
Mathematical sciences	1,784	1,864	1,705	1,672	1,656	1,677	1,535	1,796	1,919
Computer sciences	2,969	3,899	3,965	4,294	4,300	4,121	4,150	4,388	4,669
Agricultural sciences	346	336	308	324	277	293	300	295	329
Biological sciences	2,653	2,568	2,416	2,382	2,278	2,200	2,108	2,262	2,314
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	16	14	12	17	18	31	23	23	19
Biology	2,104	2,029	1,935	1,844	1,710	1,656	1,598	1,668	1,742
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	16	15	9	6	9	5	8	5	8
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	28	36	42	38	43	52	51	65	88
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	3	4	3	1	0	1	1	1	2
Microbiology	120	101	74	93	76	76	53	55	48
Nutrition	148	152	131	185	207	190	183	205	201
Pathology	40	38	38	40	60	41	48	51	39
Pharmacology	10	4	2	2	2	1	1	2	0
Physiology	0	0	0	0	0	0	0	0	0
Zoology	14	13	18	13	6	4	1	6	7
Biosciences, n.e.c.	154	162	152	142	146	144	141	181	160
Psychology	6,183	6,477	6,533	6,383	6,369	6,466	6,770	7,218	7,912
Social sciences	7,471	6,916	7,252	7,121	7,112	6,973	6,928	7,614	8,186
Agricultural economics	22	5	15	24	15	17	19	22	14
Anthropology	182	171	151	112	158	156	158	137	167
Economics (except agricultural)	691	791	741	750	611	576	548	570	491
Geography	296	243	253	220	298	305	337	419	442
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	117	150	185	217	239	301	292	357	434
Political science	4,518	3,998	3,843	3,954	3,856	3,791	4,060	4,469	4,642
Sociology	349	316	297	282	355	332	350	405	475
Sociology/anthropology	46	111	81	97	83	67	51	50	49
Social sciences, n.e.c.	1,250	1,131	1,686	1,465	1,497	1,428	1,113	1,185	1,474
Total, health fields	4,501	4,536	4,730	4,917	4,910	5,235	5,453	5,743	6,016
Dentistry	0	0	0	0	0	0	0	0	0
Neurology	0	0	0	0	7	17	7	6	10
Nursing	1,477	1,481	1,643	1,721	1,731	1,872	2,004	2,231	2,396
Pharmaceutical sciences	10	14	17	18	10	3	3	8	2
Preventive medicine/community health	113	152	144	139	140	151	98	104	130
Speech pathology/audiology	948	1,081	1,000	1,001	876	885	811	846	923
Veterinary sciences	3	0	3	3	3	3	0	0	8
Clinical medicine, n.e.c.	332	248	203	181	187	188	180	149	119
Health related, n.e.c.	1,618	1,560	1,720	1,854	1,956	2,115	2,350	2,399	2,428

1/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987. Data shown here are therefore subject to sampling error. See Technical Notes for further information.

NOTE: n.e.c. = Not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
Total, all institutions	458,943	292,270	109,299	57,374
New England	34,324	20,719	9,435	4,170
Connecticut	7,443	4,849	1,473	1,121
Central Connecticut State University	33	33	0	0
Connecticut College	19	19	0	0
Quinnipiac College	190	0	0	190
Southern Connecticut State University	183	118	0	65
St. Joseph College	160	109	0	51
The Hartford Graduate Center	867	390	477	0
Trinity College	34	34	0	0
University of Bridgeport	326	172	154	0
University of Connecticut	2,510	1,446	534	530
University of Hartford	267	207	0	60
University of New Haven	780	649	131	0
Wesleyan University	121	121	0	0
Western Connecticut State University	19	19	0	0
Yale University	1,934	1,532	177	225
Maine	689	545	128	16
University of Maine	660	532	128	0
University of New England	29	13	0	16
Massachusetts	22,179	12,435	7,040	2,704
American International College	170	170	0	0
Anna Maria College	139	93	0	46
Assumption College	202	70	0	132
Boston College	623	429	0	194
Boston University	2,346	1,368	700	278
Brandeis University	416	416	0	0
Bridgewater State College	34	34	0	0
Clark University	253	253	0	0
Emerson College	58	0	0	58
Framingham State College	18	18	0	0
Harvard University	3,231	2,655	184	392
MGH Institute of Health Professions	181	6	0	175
Mass College of Pharmacy/Allied Health	41	25	0	16
Massachusetts Institute of Technology	4,245	2,014	2,227	4
Mount Holyoke College	11	11	0	0
Northeastern University	2,414	904	1,106	404
Salem State College	95	17	0	78
Smith College	5	5	0	0
Southeastern Massachusetts University	199	107	67	25
Tufts University	1,037	613	312	112
University of Lowell	2,070	860	992	218
University of Massachusetts	3,251	2,075	679	497
Western New England College	229	18	143	68
Williams College	23	23	0	0
Woods Hole Oceanographic Institution	0	0	0	0
Worcester Polytechnic Institute	878	248	630	0
Worcester State College	10	3	0	7
New Hampshire	1,175	855	248	72
Dartmouth College	339	235	104	0
Rivier College	153	153	0	0
University of New Hampshire	683	467	144	72
Rhode Island	2,162	1,520	432	210
Brown University	769	665	104	0
Providence College	0	0	0	0
Rhode Island College	83	83	0	0
University of Rhode Island	1,310	772	328	210
Vermont	676	515	114	47
Goddard College	49	49	0	0
Marlboro College	0	0	0	0
Middlebury College	2	2	0	0
University of Vermont & St Agric Colleg	625	464	114	47
Middle Atlantic	80,827	52,699	17,857	10,271
New Jersey	11,674	7,733	3,327	614
Drew University	13	13	0	0
Fairleigh Dickinson University	912	816	96	0
Kean College of New Jersey	103	103	0	0
Monmouth College(NJ)	275	156	119	0
Montclair State College	414	414	0	0
New Jersey Institute of Technology	2,283	945	1,338	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
New Jersey, continued				
Princeton University	1,335	993	342	0
Rutgers the State University	4,249	3,090	803	356
Seton Hall University	278	154	0	124
Stevens Institute of Technology	1,333	704	629	0
Trenton State College	35	8	0	27
Univ. of Med and Dent of New Jersey	284	231	0	53
William Paterson College	160	106	0	54
New York	47,648	32,550	8,359	6,739
Adelphi University	947	406	0	541
Albany Medical Center Graduate School	86	70	0	16
Alfred University	139	36	103	0
CUNY Bernard Baruch College	451	358	0	93
CUNY Brooklyn College	834	732	0	102
CUNY City College	854	459	375	20
CUNY College of Staten Island St George	82	82	0	0
CUNY Graduate School and Univ Center	2,068	1,857	134	77
CUNY Herbert H. Lehman College	78	78	0	0
CUNY Hunter College	809	462	0	347
CUNY John Jay College of Crim Justice	459	459	0	0
CUNY Mt. Sinai Sch of Medicine	146	146	0	0
CUNY Queens College	474	433	0	41
Clarkson University	312	88	224	0
College of New Rochelle	304	119	0	185
College of St Rose	102	31	0	71
Columbia University Main Division	2,942	1,635	800	507
Columbia University Teachers College	1,928	1,303	0	625
Cooper Union	53	0	53	0
Cornell University	3,408	2,424	924	60
Fordham University	566	566	0	0
Hofstra University	549	451	0	98
Iona College	544	405	0	139
Ithaca College	19	0	0	19
Long Island University	1,503	745	0	758
Manhattan College	325	15	310	0
Marist College	254	254	0	0
New School for Social Research	984	984	0	0
New York Institute of Technology	939	778	161	0
New York Medical College	257	107	0	150
New York University	3,161	2,748	0	413
Niagara University	15	15	0	0
Pace University	1,354	1,145	0	209
Polytechnic University	1,974	831	1,143	0
Pratt Institute	17	0	17	0
Rensselaer Polytechnic Institute	1,790	577	1,213	0
Rochester Institute of Technology	866	609	248	9
Rockefeller University	128	128	0	0
Russell Sage College	627	305	0	322
SUNY - Albany	1,264	1,229	0	35
SUNY - Binghamton	1,182	673	426	83
SUNY - Buffalo	3,316	1,838	929	549
SUNY - Coll of Env Science and Forestry	327	440	87	0
SUNY - Health Sci Ctr at Brooklyn	108	94	0	14
SUNY - Health Sci Ctr at Syracuse	51	50	0	1
SUNY - Stony Brook	2,305	1,768	207	330
SUNY College at Brockport	562	478	0	84
SUNY College at Buffalo	89	89	0	0
SUNY College at Cortland	14	14	0	0
SUNY College at Fredonia	21	21	0	0
SUNY College at Geneseo	46	12	0	34
SUNY College at New Paltz	227	227	0	0
SUNY College at Oneonta	1	1	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
New York, continued				
SUNY College at Oswego	220	220	0	0
SUNY College at Plattsburgh	38	38	0	0
SUNY College at Potsdam	5	5	0	0
SUNY College of Technology at Utica/Rom	49	49	0	0
SUNY State College of Optometry	28	0	0	28
Sarah Lawrence College	44	44	0	0
St Bonaventure University	15	15	0	0
St John's University	707	444	0	263
Syracuse University	2,155	1,180	734	241
Union College(NY)	198	65	70	63
University of Rochester	1,411	1,124	201	86
Vassar College	3	3	0	0
Wagner College	124	23	0	101
Yeshiva University	590	565	0	25
Pennsylvania	21,505	12,416	6,171	2,918
Bloomsburg University of Pennsylvania	89	15	0	74
Bryn Mawr College	114	114	0	0
Bucknell University	58	27	31	0
California University of Pennsylvania	142	142	0	0
Carnegie-Mellon University	1,657	1,034	623	0
Clarion University of Pennsylvania	83	83	0	0
Drexel University	1,410	490	920	0
Duquesne University	380	227	0	153
East Stroudsburg Univ of Pennsylvania	99	99	0	0
Edinboro University of Pennsylvania	242	121	0	121
Gannon University	96	4	35	60
Hahnemann University	508	340	0	168
Indiana University of Pennsylvania	158	123	0	0
Kutztown University of Pennsylvania	131	131	0	0
Lehigh University	764	318	446	0
Mansfield University of Pennsylvania	12	12	0	0
Marywood College	130	130	0	0
Millersville University of Pennsylvania	97	79	18	0
Pennsylvania State University	4,700	2,439	2,120	141
Phila College of Osteopathic Medicine	12	0	0	12
Philadelphia Coll of Pharmacy and Sci	61	31	0	30
Shippensburg University of Pennsylvania	351	351	0	0
Slippery Rock University of Pennsylvania	167	36	0	131
St Joseph's University	428	187	0	241
Swarthmore College	0	0	0	0
Temple University	1,505	1,024	78	403
The Medical College of Pennsylvania	100	72	0	28
Thomas Jefferson University	158	99	0	59
University of Pennsylvania	2,526	1,868	597	61
University of Pittsburgh	3,852	1,897	799	1,156
University of Scranton	127	98	0	29
Villanova University	844	503	341	0
West Chester University of Pennsylvania	355	317	0	38
Widener University	150	0	150	0
Wilkes University	33	5	13	15
East North Central	81,426	51,424	19,478	10,524
Illinois	24,381	17,358	4,145	2,878
Bradley University	249	85	164	0
Chicago Coll of Osteo Medicine	0	0	0	0
Chicago School of Prof Psych	158	158	0	0
Chicago State University	151	151	0	0
De Paul University	1,444	1,341	0	103
Eastern Illinois University	156	131	0	25
Forest Institute of Prof Psych	256	256	0	0
Governors State University	686	444	0	242
Illinois Institute of Technology	1,776	1,132	644	0
Illinois State University	523	453	0	70
Loyola University of Chicago	730	577	0	153

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
Illinois, continued				
Northeastern Illinois University	969	912	0	57
Northern Illinois University	1,116	795	112	209
Northwestern University	1,920	1,108	630	182
Roosevelt University	330	330	0	0
Rush University	471	95	0	376
Sangamon State University	700	651	0	49
Southern Illinois Univ at Carbondale	1,565	1,107	219	239
Southern Illinois Univ at Edwardsville	645	395	90	160
University of Chicago	2,016	1,999	0	17
University of Health Sciences (Chicago)	119	115	0	4
University of Illinois at Chicago	3,121	1,445	889	787
University of Illinois at Urbana	4,894	3,366	1,397	131
Western Illinois University	386	312	0	74
Indiana	9,769	6,581	1,971	1,217
Ball State University	421	349	0	72
Butler University	34	21	0	13
Indiana State University	298	252	28	18
Indiana University	3,914	3,125	41	748
Indiana Wesleyan University	20	0	0	20
Purdue University	3,915	2,075	1,556	284
Rose-Hulman Institute of Technology	135	11	124	0
Saint Francis College	55	55	0	0
University of Evansville	67	8	11	48
University of Notre Dame	807	596	211	0
Valparaiso University	103	89	0	14
Michigan	16,570	9,546	5,167	1,857
Andrews University	299	148	0	151
Central Michigan University	298	257	0	41
Eastern Michigan University	990	748	216	26
Grand Valley State University	186	74	0	112
Michigan State University	2,993	2,343	485	165
Michigan Technological University	464	195	269	0
Northern Michigan University	190	110	0	80
Oakland University	668	279	337	32
University of Detroit	564	388	121	35
University of Michigan	5,284	2,378	2,378	519
Wayne State University	1,155	1,295	1,111	549
Western Michigan University	1,479	1,131	221	127
Ohio	20,924	12,035	5,792	3,097
Air Force Institute of Technology	653	131	522	0
Antioch University	1,146	1,104	42	0
Bowling Green State University	581	559	0	22
Case Western Reserve University	1,803	787	690	326
Cleveland State University	1,099	654	364	81
John Carroll University	64	64	0	0
Kent State University	1,029	778	0	251
Medical College of Ohio at Toledo	292	0	0	292
Miami University	468	427	14	27
NE Ohio Univ Med School	0	0	0	0
Ohio State University	5,188	3,195	1,185	808
Ohio University	1,004	702	238	64
Union Institute	1,501	446	0	55
University of Akron	1,593	825	488	280
University of Cincinnati	2,576	1,097	981	498
University of Dayton	871	185	686	0
University of Toledo	700	390	278	32
Wright State University	993	517	243	233
Xavier University	194	66	0	128
Youngstown State University	169	108	61	0
Wisconsin	9,782	5,904	2,403	1,475
Marquette University	815	219	401	195
Medical College of Wisconsin	91	91	0	0
Milwaukee School of Engineering	316	0	316	0
University of Wisconsin - Eau Claire	130	28	0	102

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
Wisconsin, continued				
University of Wisconsin - Green Bay	37	37	0	0
University of Wisconsin - La Crosse	95	51	0	44
University of Wisconsin - Madison	5,746	3,990	1,154	602
University of Wisconsin - Milwaukee	1,747	1,137	407	203
University of Wisconsin - Oshkosh	293	169	0	124
University of Wisconsin - Platteville	24	12	12	0
University of Wisconsin - River Falls	48	48	0	0
University of Wisconsin - Stevens Point	104	42	0	62
University of Wisconsin - Stout	272	45	113	114
University of Wisconsin - Whitewater	64	35	0	29
West North Central	29,625	19,301	6,334	3,990
Iowa	5,516	3,526	1,224	766
Drake University	144	69	0	75
Iowa State University of Sci & Tech	2,755	1,967	784	4
Loras College	22	22	0	0
Maharishi International University	77	77	0	0
Teikyo Marycrest College	47	47	0	0
Univ. of Osteopathic Med & Health Sci	68	0	0	68
University of Iowa	2,301	1,281	440	580
University of Northern Iowa	102	63	0	39
Kansas	5,325	3,403	1,082	840
Emporia State University - Kansas	136	136	0	0
Fort Hays State University	77	77	0	0
Kansas State University	1,532	1,218	277	37
Pittsburg State University	320	265	55	0
University of Kansas	2,257	1,342	439	476
Washburn University of Topeka	31	31	0	0
Wichita State University	972	334	311	327
Minnesota	6,979	4,992	1,220	767
Bemidji State University	22	22	0	0
Mankato State University	343	305	0	38
Mayo Graduate School	98	84	0	14
Moorhead State University	239	189	0	50
St Mary's College of Minnesota	597	479	0	118
St. Cloud State University	70	31	0	39
University of Minnesota	5,610	3,882	1,220	508
Missouri	7,405	4,279	2,036	1,090
Central Missouri State University	307	225	48	34
Kirkville College of Osteopathic Med	7	7	0	0
Lincoln University	27	27	0	0
Northeast Missouri State University	30	16	0	14
Northwest Missouri State University	71	71	0	0
Southeast Missouri State University	43	43	0	0
Southwest Missouri State University	198	123	0	75
St. Louis University	800	381	0	419
Univ of Health Sciences (Kansas City)	0	0	0	0
University of Missouri - Columbia	1,983	1,282	512	189
University of Missouri - Kansas City	812	590	0	222
University of Missouri - Rolla	1,224	317	907	0
University of Missouri - St Louis	316	316	0	0
Washington University	1,593	887	569	137
Nebraska	2,519	1,818	392	309
Creighton University	130	76	0	54
Kearney State College	57	38	0	19
University of Nebraska - Lincoln	1,550	1,132	392	26
University of Nebraska - Omaha	505	505	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
Nebraska, continued				
University of Nebraska Medical Center	277	67	0	210
North Dakota	886	704	137	45
North Dakota State University	560	441	108	11
University of North Dakota	326	263	29	34
South Dakota	995	579	243	173
South Dakota School of Mines and Tech	242	104	138	0
South Dakota State University	493	254	105	134
University of South Dakota	260	221	0	39
South Atlantic	68,623	43,658	16,340	8,625
Delaware	1,378	994	318	66
Delaware State College	21	21	0	0
University of Delaware	1,357	973	318	66
District of Columbia	8,508	5,925	1,935	648
Catholic University of America	940	466	270	204
Gallaudet University	32	0	0	32
George Washington University	4,426	2,575	1,563	288
Georgetown University	703	598	0	105
Howard University	781	679	102	0
The American University	1,559	1,559	0	0
University of the District of Columbia	67	48	0	19
Florida	13,560	8,269	3,428	1,863
Florida A & M University	153	103	24	26
Florida Atlantic University	742	389	306	47
Florida Institute of Technology	894	643	251	0
Florida International University	772	502	143	127
Florida State University	1,483	1,236	145	102
Jacksonville University	31	31	0	0
Nova University	923	849	0	74
University of Central Florida	1,216	525	559	132
University of Florida	3,588	1,948	1,104	536
University of Miami	1,213	810	252	151
University of South Florida	2,158	846	644	668
University of West Florida	387	387	0	0
Georgia	8,169	4,975	2,368	826
Augusta College	45	45	0	0
Clark Atlanta University	279	279	0	0
Emory University	1,013	595	0	418
Fort Valley State College	80	80	0	0
Georgia College	251	207	0	44
Georgia Institute of Technology	2,972	737	2,235	0
Georgia Southern University	73	73	0	0
Georgia State University	1,111	943	0	168
Institute of Paper Science & Technology	57	0	57	0
Medical College of Georgia	202	78	0	124
Mercer University	88	16	68	4
Morehouse School of Medicine	0	0	0	0
University of Georgia	1,653	1,593	8	52
Valdosta State College	225	209	0	16
West Georgia College	120	120	0	0
Maryland	9,827	6,401	1,890	1,536
Coppin State College	35	35	0	0
Frostburg State University	54	54	0	0
Hood College	344	344	0	0
Johns Hopkins University	1,756	998	169	589
Loyola College	788	478	274	36
Morgan State University	69	69	0	0
Towson State University	476	324	0	152
Uniformed Serv Univ of the Hlth Science	123	92	0	31
University of Baltimore	246	246	0	0
University of Maryland - Balt Prof Sch	965	330	0	635
University of Maryland - Baltimore Cnty	913	724	171	18
University of Maryland - College Park	3,931	2,580	1,276	75
University of Maryland Eastern Shore	82	82	0	0
Washington College	45	45	0	0
North Carolina	9,860	6,559	1,860	1,441
Appalachian State University	194	194	0	0
Duke University	1,388	1,048	274	66
East Carolina University	363	249	0	114
North Carolina A & T State University	240	65	175	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
North Carolina, continued				
North Carolina Central University	74	74	0	0
North Carolina State Univ at Raleigh	3,045	1,693	1,280	72
Univ of North Carolina at Chapel Hill	3,066	2,199	37	830
Univ of North Carolina at Charlotte	552	349	94	109
Univ of North Carolina at Greensboro	530	308	0	222
University of North Carolina/Wilmington	64	64	0	0
Wake Forest University	219	215	0	4
Western Carolina University	125	101	0	24
South Carolina				
Clemson University	3,679	2,171	1,014	494
College of Charleston	1,500	769	680	51
Furman University	84	84	0	0
Medical University of South Carolina	4	4	0	0
University of South Carolina	168	146	0	22
Winthrop College	1,874	1,119	334	421
	49	49	0	0
Virginia				
College of William and Mary	11,418	7,111	3,028	1,279
Eastern Virginia Medical School	334	328	6	0
George Mason University	111	111	0	0
Hampton University	2,275	1,745	308	222
Hollins College	127	58	0	69
Institute of Textile Technology	10	10	0	0
James Madison University	30	0	30	0
Old Dominion University	155	102	0	53
Radford University	1,195	666	368	161
University of Richmond	209	149	0	60
University of Virginia	23	23	0	0
Virginia Commonwealth University	1,906	1,214	618	74
Virginia Polytechnic Inst and State Uni	1,712	1,079	28	605
Virginia State University	3,275	1,570	1,670	35
	56	56	0	0
West Virginia				
Marshall University	2,224	1,253	499	472
Univ of West Virginia Coll of Grad Stds	237	177	0	60
University of Charleston	444	273	127	44
West Virginia Institute of Technology	7	7	0	0
West Virginia Sch of Osteopathic Med	14	0	14	0
West Virginia University	0	0	0	0
	1,522	796	358	368
East South Central				
Alabama	19,511	12,428	4,540	2,543
Alabama A & M University	6,334	3,551	1,624	1,159
Alabama State University	240	240	0	0
Auburn University	13	13	0	0
Jacksonville State University	1,699	1,059	536	104
The University of Alabama	180	180	0	0
The University of Alabama at Birmingham	807	530	262	15
The University of Alabama in Huntsville	1,499	557	165	777
Troy State University at Montgomery	1,099	505	558	36
Tuskegee University	162	162	0	0
University of Montevallo	116	62	35	19
University of South Alabama	25	0	0	25
	494	243	68	183
Kentucky				
Eastern Kentucky University	3,916	2,585	845	486
Morehead State University	175	175	0	0
Murray State University	59	59	0	0
Spalding University	318	163	50	105
University of Kentucky	149	112	0	37
University of Louisville	1,906	1,301	327	278
Western Kentucky University	1,115	581	468	66
	194	194	0	0
Mississippi				
Jackson State University	2,698	2,032	380	286
Mississippi State University	238	238	0	0
Mississippi University for Women	1,087	783	291	13
University of Mississippi	31	0	0	31
University of Southern Mississippi	739	531	89	119
	603	480	0	123
Tennessee				
Austin Peay State University	6,563	4,260	1,691	612
East Tennessee State University	54	54	0	0
Fisk University	343	253	0	90
	23	23	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
Tennessee, continued				
Meharry Medical College	47	47	0	0
Memphis State University	896	667	169	60
Middle Tennessee State University	508	508	0	0
Tennessee State University	249	203	46	0
Tennessee Technological University	284	135	149	0
University of Tennessee at Chattanooga	280	198	82	0
University of Tennessee at Knoxville	2,668	1,366	991	311
University of Tennessee, Memphis	215	110	0	105
Vanderbilt University	996	696	254	46
West South Central	42,372	26,144	10,072	6,156
Arkansas	1,891	1,210	302	379
Arkansas State University	318	238	0	80
University of Arkansas	911	609	302	0
University of Arkansas - Med Sci Campus	197	49	0	148
University of Arkansas at Little Rock	160	134	0	26
University of Central Arkansas	305	180	0	125
Louisiana	5,201	3,332	1,065	804
Grambling State University	9	9	0	0
Louisiana State University System	2,567	1,787	659	121
Louisiana Tech University	230	59	154	17
Loyola University in New Orleans	2	2	0	0
McNeese State University	126	109	17	0
Nicholls State University	43	43	0	0
Northeast Louisiana University	202	141	0	61
Northwest State University	159	46	0	113
Southeastern Louisiana University	30	30	0	0
Southern University A & M College	210	210	0	0
Tulane University of Louisiana	1,009	509	127	373
University of Southwestern Louisiana	538	387	108	43
Xavier University	76	0	0	76
Oklahoma	4,668	2,576	1,459	633
East Central University	8	8	0	0
Northeastern State University	139	139	0	0
Oklahoma State University	1,721	1,136	568	17
Southwestern Oklahoma State University	68	68	0	0
University of Oklahoma	2,472	1,077	779	616
University of Tulsa	260	148	112	0
Texas	30,612	19,026	7,246	4,340
Abilene Christian University	114	93	0	21
Angelo State University	125	125	0	0
Baylor College of Dentistry	47	3	0	44
Baylor College of Medicine	293	239	0	54
Baylor University	493	320	0	173
Corpus Christi State University	162	99	0	63
East Texas State University	363	363	0	0
Incarnate Word College	131	57	0	74
Lamar University	339	133	154	52
Midwestern State University	149	149	0	0
Prairie View A & M University	141	129	12	0
Rice University	800	542	258	0
Sam Houston State University	343	343	0	0
Southern Methodist University	901	452	449	0
Southwest Texas State University	611	506	0	105
St Mary's University of San Antonio	39	0	39	0
Stephen F. Austin State University	204	204	0	0
Sul Ross State University	52	52	0	0
Tarleton State University	58	58	0	0
Texas A & I University	262	165	97	0
Texas A & M University	4,927	3,276	1,595	56
Texas Christian University	153	131	0	22
Texas College of Osteopathic Medicine	0	0	0	0
Texas Southern University	175	175	0	0
Texas Tech University	1,293	954	300	39
Texas Woman's University	1,744	591	0	1,153
The University of Texas - Pan American	9	9	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
Texas, continued				
Trinity University	105	0	0	105
Univ of Texas Hlth Sci Ctr San Antonio	465	130	0	335
Univ of Texas Hlth Sci Ctr at Houston	919	400	0	519
Univ of Texas MD Anderson Cancer Center	0	0	0	0
Univ of Texas Med Branch at Galveston	241	112	0	129
Univ of Texas SW Medical Ctr at Dallas	321	243	25	53
Univ of Texas at Arlington	2,001	930	853	218
Univ of Texas at Austin	4,717	2,458	1,848	411
Univ of Texas at Dallas	1,233	920	179	134
Univ of Texas at El Paso	766	335	289	142
University of Central Texas	102	102	0	0
University of Houston - Victoria	29	29	0	0
University of Houston at Clear Lake Cit	1,274	1,114	95	65
University of Houston-University Park	2,578	1,437	934	207
University of North Texas	1,206	1,082	26	98
University of Texas at San Antonio	286	212	74	0
University of Texas at Tyler	197	173	0	24
University of Texas of the Permian Basi	53	52	1	0
West Texas State University	191	129	18	44
Mountain	27,519	17,776	6,914	2,829
Arizona	7,552	4,763	2,100	689
Arizona State University	3,222	1,579	1,341	302
Northern Arizona University	953	817	0	136
University of Arizona	3,377	2,367	759	251
Colorado	8,554	5,400	2,168	986
Colorado School of Mines	679	474	205	0
Colorado State University	1,870	1,257	392	221
National Technological University	487	100	387	0
University of Colorado	4,198	2,450	1,176	572
University of Denver	981	929	8	44
University of Northern Colorado	339	190	0	149
Idaho	1,560	969	406	185
Idaho State University	512	254	73	185
University of Idaho	1,048	715	333	0
Montana	1,084	864	150	70
Montana College Mineral Sci & Technolog	91	5	70	16
Montana State University	483	373	80	30
University of Montana	510	486	0	24
Nevada	1,183	786	277	120
University of Nevada at Las Vegas	311	191	75	45
University of Nevada at Reno	872	595	202	75
New Mexico	2,945	1,939	788	218
Eastern New Mexico University	99	88	0	11
New Mexico Highlands University	57	57	0	0
New Mexico Institute of Mining and Tech	245	187	58	0
New Mexico State University	883	611	265	7
University of New Mexico	1,661	996	465	200
Utah	3,790	2,447	899	444
Brigham Young University	680	504	145	31
University of Utah	1,876	1,082	445	349
Utah State University	1,234	861	309	64
Wyoming	851	608	126	117
University of Wyoming	851	608	126	117
Pacific	72,177	46,460	18,220	7,497
Alaska	680	454	200	26
University of Alaska Southeast	20	20	0	0
University of Alaska at Anchorage	173	49	98	26
University of Alaska at Fairbanks	487	385	102	0
California	59,033	37,394	15,547	6,092
Azusa Pacific University	260	183	0	77
Biola University	190	190	0	0
Calif Poly State Univ at San Luis Obisp	344	226	118	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
California, continued				
Calif Sch of Prof Psych - Fresno	251	251	0	0
Calif Sch of Prof Psych - Los Angeles	585	585	0	0
Calif Sch of Prof Psych - San Diego	519	519	0	0
Calif Sch of Prof Psych-Berkeley/Alamed	512	512	0	0
Calif State Polytechnic Univ at Pomona	471	314	157	0
Calif State Univ at Dominguez Hills	462	397	65	0
Calif State Univ at Fullerton	1,089	735	279	75
Calif State Univ at Hayward	857	792	0	65
Calif State Univ at Long Beach	2,209	1,163	710	336
Calif State Univ at Los Angeles	1,090	662	144	284
Calif State Univ at San Bernardino	186	156	0	30
Calif State Univ of Stanislaus	114	114	0	0
Calif State University at Chico	491	423	12	56
Calif State University at Fresno	639	490	15	136
Calif State University at Northridge	1,436	629	605	202
Calif State University at Sacramento	863	509	221	133
California Institute of Integral Studie	250	250	0	0
California Institute of Technology	1,088	669	419	0
California State Univ - Bakersfield	161	112	0	49
Chapman College	260	181	0	79
Charles R. Drew Univ of Medicine & Sci	0	0	0	0
Claremont Univ Center & Graduate School	511	511	0	0
Dominican College of San Rafael	107	107	0	0
Fuller Theological Seminary	338	338	0	0
Golden Gate University	354	354	0	0
Harvey Mudd College	7	0	7	0
Humboldt State University	305	250	44	11
John F Kennedy University	800	771	0	29
Loma Linda University	459	92	0	367
Loyola Marymount University	221	144	77	0
National University	507	353	154	0
Northrop University	323	138	185	0
Occidental College	1	1	0	0
Pacific Grad School of Prof Psych	368	368	0	0
Pacific States University	20	0	20	0
Pepperdine University	731	731	0	0
Rand Graduate School of Policy Studies	48	48	0	0
San Diego State University	2,037	1,190	294	553
San Francisco State University	1,007	868	0	139
San Jose State University	1,913	911	729	273
Santa Clara University	1,293	523	770	0
Sonoma State University	196	152	0	44
Stanford University	4,275	1,961	2,277	37
The Fielding Institute	473	473	0	0
The Wright Institute	207	207	0	0
US International University	519	519	0	0
US Naval Postgraduate School	1,361	614	747	0
University of Calif at Berkeley	5,274	3,128	1,655	491
University of Calif at Davis	2,717	2,107	597	13
University of Calif at Irvine	1,279	934	305	40
University of Calif at Los Angeles	4,523	2,409	1,029	1,085
University of Calif at Riverside	711	711	0	0
University of Calif at San Diego	1,941	1,479	352	110
University of Calif at San Francisco	1,083	391	27	665
University of Calif at Santa Barbara	1,525	1,025	450	50
University of Calif at Santa Cruz	608	569	39	0
University of La Verne	141	141	0	0
University of Redlands	28	0	0	28
University of San Diego	188	52	0	136
University of San Francisco	147	60	87	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-1. Graduate students in the science, engineering, and health fields
in all institutions by geographic division,
State, institution, and area of study: 1990

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Division, State, and institution	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
California, continued				
University of Southern California	5,707	2,561	2,745	401
University of the Pacific	144	42	6	98
West Coast University	309	99	210	0
Hawaii	1,984	1,419	210	355
University of Hawaii at Manoa	1,984	1,419	210	355
Oregon	3,851	2,892	760	199
Oregon Grad Inst of Science & Technolog	188	125	63	0
Oregon Health Sciences University	103	102	0	1
Oregon State University	1,795	1,278	437	80
Pacific University	6	0	0	6
Portland State University	918	583	249	86
Southern Oregon State College	28	28	0	0
University of Oregon	776	776	0	0
University of Portland	37	0	11	26
Washington	6,629	4,301	1,503	825
Central Washington University	119	119	0	0
Eastern Washington University	244	220	0	24
Gonzaga University	10	0	10	0
Pacific Lutheran University	69	58	0	11
Saint Martin's College	18	0	18	0
Seattle University	243	129	114	0
University of Washington	4,335	2,638	1,099	598
Walla Walla College	3	3	0	0
Washington State University	1,271	897	262	112
Western Washington University	306	237	0	69
Whitworth College	11	0	0	11
Outlying Areas	2,539	1,661	109	769
Guam	0	0	0	0
University of Guam	0	0	0	0
Puerto Rico	2,539	1,661	109	769
Caribbean Center for Advanced Studies	216	216	0	0
Catholic University of Puerto Rico	54	0	0	54
Ponce School of Medicine	19	19	0	0
University of Puerto Rico	358	249	109	0
University of Puerto Rico - Rio Piedras	1,235	1,100	0	135
University of Puerto Rico Med Sci Campu	657	77	0	580

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students
and Postdoctorates in Science and Engineering

Table E-2. Graduate science students in all institutions
by geographic division, State, institution,
and major field of science: 1990

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Division, State, and institution	Total sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Bio- logical sciences	Psychol- ogy	Social sciences
Total, all institutions	292,270	34,337	14,159	19,884	34,507	11,183	50,921	48,659	78,620
New England	20,719	3,253	1,085	1,018	2,554	459	4,409	2,463	5,478
Connecticut	4,849	553	194	231	880	42	1,162	700	1,087
Central Connecticut State University	33	0	0	19	0	0	3	11	0
Connecticut College	19	0	0	0	0	0	2	17	0
Quinnipiac College	0	0	0	0	0	0	0	0	0
Southern Connecticut State University	118	17	0	0	0	0	62	39	0
St. Joseph College	109	27	0	0	0	0	23	59	0
The Hartford Graduate Center	390	0	0	0	390	0	0	0	0
Trinity College	34	0	0	2	0	0	0	0	32
University of Bridgeport	172	19	0	0	55	0	25	72	1
University of Connecticut	1,446	180	62	118	91	18	359	179	439
University of Hartford	207	8	0	0	0	0	26	111	62
University of New Haven	649	0	74	20	275	0	39	93	148
Wesleyan University	121	52	2	19	0	0	42	6	0
Western Connecticut State University	19	0	14	5	0	0	0	0	0
Yale University	1,532	250	42	48	69	24	581	113	405
Maine	545	55	45	11	19	100	132	71	112
University of Maine	532	55	45	11	19	100	132	58	112
University of New England	13	0	0	0	0	0	0	13	0
Massachusetts	12,435	2,248	581	587	1,248	205	2,435	1,281	3,850
American International College	170	0	0	0	0	0	0	113	57
Anna Maria College	93	0	0	0	0	0	26	67	0
Assumption College	70	0	0	0	0	0	0	70	0
Boston College	429	97	33	22	0	0	36	20	221
Boston University	1,368	191	23	57	62	0	413	271	351
Brandeis University	416	94	0	37	31	0	117	37	100
Bridgewater State College	34	3	0	0	0	0	5	26	0
Clark University	253	33	17	3	0	0	19	48	133
Emerson College	0	0	0	0	0	0	0	0	0
Framingham State College	18	0	0	0	0	0	18	0	0
Harvard University	2,655	346	33	74	0	4	693	83	1,422
MGH Institute of Health Professions	6	0	0	0	0	0	6	0	0
Mass College of Pharmacy/Allied Health	25	18	0	0	0	0	7	0	0
Massachusetts Institute of Technology	2,014	562	260	126	198	0	234	53	581
Mount Holyoke College	11	2	0	0	0	0	5	4	0
Northeastern University	904	161	0	77	236	0	94	37	299
Salem State College	17	0	0	17	0	0	0	0	0
Smith College	5	0	0	0	0	0	5	0	0
Southeastern Massachusetts University	107	34	0	0	18	0	21	34	0
Tufts University	613	95	0	16	16	0	260	118	108
University of Lowell	860	276	105	90	262	0	28	55	44
University of Massachusetts	2,075	310	110	68	240	201	408	245	493
Western New England College	18	0	0	0	0	0	0	0	18
Williams College	23	0	0	0	0	0	0	0	23
Woods Hole Oceanographic Institution	0	0	0	0	0	0	0	0	0
Worcester Polytechnic Institute	248	26	0	0	185	0	37	0	0
Worcester State College	3	0	0	0	0	0	3	0	0
New Hampshire	855	146	68	50	207	57	200	42	85
Dartmouth College	235	64	21	20	22	0	94	14	0
Rivier College	153	0	0	0	152	0	1	0	0
University of New Hampshire	467	82	47	30	33	57	105	28	85
Rhode Island	1,520	197	183	115	182	34	282	246	281
Brown University	665	132	44	82	100	0	106	19	182
Providence College	0	0	0	0	0	0	0	0	0
Rhode Island College	83	5	0	14	0	0	19	45	0
University of Rhode Island	772	60	139	19	82	34	157	182	99
Vermont	515	54	14	24	18	21	198	123	63
Goddard College	49	0	0	0	0	0	0	43	6
Marlboro College	0	0	0	0	0	0	0	0	0
Middlebury College	2	0	0	0	0	0	2	0	0
University of Vermont & St Agric Colleg	464	54	14	24	18	21	196	80	57
Middle Atlantic	52,699	6,121	1,972	3,318	8,967	611	8,246	8,296	15,168
New Jersey	7,733	944	471	429	2,046	73	1,430	547	1,793
Drew University	13	0	0	0	0	0	0	0	13
Fairleigh Dickinson University	816	54	0	10	234	0	50	221	247
Kean College of New Jersey	103	0	0	0	0	0	0	103	0
Monmouth College(NJ)	156	0	0	0	156	0	0	0	0
Montclair State College	414	13	86	62	73	0	23	75	82
New Jersey Institute of Technology	945	0	114	31	800	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-2. Graduate science students in all institutions
by geographic division, State, institution,
and major field of science: 1990

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Division, State, and institution	Total sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathematical sciences	Computer sciences	Agricultural sciences	Biological sciences	Psychology	Social sciences
New Jersey, continued									
Princeton University	993	298	47	67	44	0	111	36	390
Rutgers the State University	3,090	377	224	214	185	73	914	112	991
Seton Hall University	154	83	0	6	0	0	65	0	0
Stevens Institute of Technology	704	119	0	31	554	0	0	0	0
Trenton State College	8	0	0	3	0	0	0	0	0
Univ of Med and Dent of New Jersey	231	0	0	0	0	0	231	0	0
William Paterson College	106	0	0	0	0	0	36	0	70
New York	32,550	3,308	952	1,943	5,453	338	4,802	6,117	9,637
Adelphi University	406	38	30	43	0	0	35	260	0
Albany Medical Center Graduate School	70	0	0	0	0	0	70	0	0
Alfred University	36	0	0	0	0	0	0	36	0
CUNY Bernard Baruch College	358	0	0	31	76	0	0	17	234
CUNY Brooklyn College	732	58	35	35	275	0	17	58	254
CUNY City College	459	40	11	15	228	0	50	75	40
CUNY College of Staten Island St George	82	0	22	0	60	0	0	0	0
CUNY Graduate School and Univ Center	1,857	309	0	72	0	0	332	463	681
CUNY Herbert H. Lehman College	78	0	0	57	0	0	21	0	0
CUNY Hunter College	462	27	0	21	50	0	86	46	232
CUNY John Jay College of Crim Justice	459	0	0	0	0	0	28	96	335
CUNY Mt. Sinai Sch of Medicine	146	0	0	0	0	0	146	0	0
CUNY Queens College	433	20	12	17	180	0	8	106	90
Clarkson University	119	74	0	0	0	0	0	0	0
College of New Rochelle	31	0	0	0	0	0	13	119	0
College of St Rose	1,635	234	117	65	105	0	342	39	733
Columbia University Main Division	1,303	0	0	198	0	0	0	785	320
Columbia University Teachers College	0	0	0	0	0	0	0	0	0
Cooper Union	2,424	404	71	185	106	173	857	61	567
Cornell University	566	0	0	10	0	0	67	207	282
Fordham University	451	0	0	18	121	0	34	275	3
Hofstra University	405	0	0	0	301	0	7	97	0
Iona College	0	0	0	0	0	0	0	0	0
Ithaca College	745	28	0	35	8	0	106	249	319
Long Island University	15	0	0	0	0	0	15	0	0
Manhattan College	254	0	0	0	204	0	0	50	0
Marist College	984	0	0	0	0	0	0	324	660
New School for Social Research	778	0	0	0	557	0	65	156	0
New York Institute of Technology	107	0	0	0	0	0	107	0	0
New York Medical College	2,748	174	49	180	302	0	279	390	1,374
New York University	15	0	0	0	0	0	15	0	0
Niagara University	1,145	0	0	0	982	0	0	112	51
Pace University	831	160	0	37	632	0	0	0	2
Polytechnic University	0	0	0	0	0	0	0	0	0
Pratt Institute	577	217	30	63	171	0	22	34	40
Rensselaer Polytechnic Institute	609	26	0	125	416	0	0	42	0
Rochester Institute of Technology	128	8	0	0	0	0	120	0	0
Rockefeller University	305	11	54	66	98	0	106	116	208
Russell Sage College	1,229	74	38	61	0	0	49	88	672
SUNY - Albany	1,838	315	87	88	117	0	420	392	419
SUNY - Binghamton	440	54	98	0	0	165	123	0	0
SUNY - Buffalo	94	0	0	0	0	0	94	0	0
SUNY - Coll of Env Science and Forestry	50	0	0	0	0	0	50	0	0
SUNY - Health Sci Ctr at Brooklyn	1,768	330	170	205	108	0	323	151	481
SUNY - Health Sci Ctr at Syracuse	478	0	0	58	0	0	28	50	342
SUNY - Stony Brook	89	8	28	13	0	0	0	0	0
SUNY College at Brockport	14	0	0	0	0	0	0	14	0
SUNY College at Buffalo	21	3	1	0	0	0	17	0	0
SUNY College at Fredonia	12	0	0	0	0	0	12	0	0
SUNY College at Geneseo	227	7	15	62	0	0	30	80	33
SUNY College at New Paltz	1	0	0	0	0	0	1	0	0
SUNY College at Oneonta									

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-2. Graduate science students in all institutions
by geographic division, State, institution,
and major field of science: 1990

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Division, State, and institution	Total, sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Bio- logical sciences	Psychol- ogy	Social sciences
New York, continued									
SUNY College at Oswego	220	23	0	0	0	0	0	197	0
SUNY College at Plattsburgh	38	2	0	0	0	0	9	27	0
SUNY College at Potsdam	5	0	0	0	0	0	0	0	0
SUNY College of Technology at Utica/Rom	49	0	0	5	49	0	0	0	0
SUNY State College of Optometry	0	0	0	0	0	0	0	0	0
Sarah Lawrence College	44	0	0	0	0	0	44	0	0
St Bonaventure University	15	2	0	0	0	0	6	7	0
St John's University	444	9	0	15	0	0	69	210	141
Syracuse University	1,180	152	32	91	196	0	76	110	523
Union College(NY)	65	0	0	0	65	0	0	0	0
University of Rochester	1,124	393	52	58	46	0	272	83	220
Vassar College	3	2	0	0	0	0	1	0	0
Wagner College	23	0	0	0	0	0	23	0	0
Yeshiva University	565	0	0	0	0	0	167	398	0
Pennsylvania	12,416	1,869	549	946	1,468	200	2,014	1,632	3,738
Bloomsburg University of Pennsylvania	15	0	0	0	0	0	15	0	0
Bryn Mawr College	114	23	3	9	0	0	12	53	14
Bucknell University	27	9	0	2	0	0	6	10	0
California University of Pennsylvania	142	0	11	0	45	0	25	24	37
Carnegie-Mellon University	1,034	127	0	75	191	0	55	33	553
Clarion University of Pennsylvania	83	0	0	0	0	0	9	0	74
Drexel University	490	118	121	124	0	0	98	29	0
Duquesne University	227	43	0	0	0	0	26	142	16
East Stroudsburg Univ of Pennsylvania	99	2	0	0	37	0	48	0	12
Edinboro University of Pennsylvania	121	0	0	0	0	0	20	101	0
Gannon University	4	0	0	0	0	0	2	0	0
Hahnemann University	340	0	0	0	0	11	148	181	0
Indiana University of Pennsylvania	123	24	0	13	0	0	14	72	0
Kutztown University of Pennsylvania	131	0	0	8	14	0	0	76	33
Lehigh University	318	169	15	43	0	0	33	24	34
Mansfield University of Pennsylvania	12	0	0	0	0	0	0	12	0
Marywood College	130	0	0	0	0	0	0	62	68
Millersville University of Pennsylvania	79	0	0	7	0	0	5	67	0
Pennsylvania State University	2,439	482	273	145	127	189	444	228	551
Phila College of Osteopathic Medicine	0	0	0	0	0	0	0	0	0
Philadelphia Coll of Pharmacy and Sci	31	11	0	0	0	0	20	0	0
Shippensburg University of Pennsylvania	351	8	34	30	52	0	31	44	152
Slippery Rock University of Pennsylvania	36	0	0	0	0	0	0	36	0
St Joseph's University	187	26	0	0	86	0	0	0	75
Swarthmore College	0	0	0	0	0	0	0	0	0
Temple University	1,024	100	14	149	138	0	181	101	341
The Medical College of Pennsylvania	72	0	0	0	0	0	72	0	0
Thomas Jefferson University	99	0	0	0	0	0	99	0	0
University of Pennsylvania	1,868	295	16	46	190	0	401	54	866
University of Pittsburgh	1,897	305	37	118	329	0	155	91	862
University of Scranton	98	22	0	0	11	0	24	41	0
Villanova University	503	81	0	86	248	0	50	38	0
West Chester University of Pennsylvania	317	21	25	89	0	0	21	113	48
Widener University	0	0	0	0	0	0	0	0	0
Wilkes University	5	3	0	2	0	0	0	0	0
East North Central	51,424	6,433	2,167	4,248	5,049	1,496	8,596	8,435	15,000
Illinois									
Bradley University	85	1	0	0	66	0	2	16	0
Chicago Coll of Osteo Medicine	0	0	0	0	0	0	0	0	0
Chicago School of Prof Psych	158	0	0	0	0	0	0	158	0
Chicago State University	151	0	0	21	0	0	21	0	109
De Paul University	1,341	48	0	39	927	0	12	102	213
Eastern Illinois University	131	9	0	17	0	0	32	34	39
Forest Institute of Prof Psych	256	0	0	0	0	0	0	256	0
Governors State University	444	26	0	0	11	0	34	241	132
Illinois Institute of Technology	1,132	56	0	15	826	0	129	106	0
Illinois State University	453	40	0	50	58	0	80	125	100
Loyola University of Chicago	577	47	0	87	0	0	133	201	109

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-2. Graduate science students in all institutions
by geographic division, State, institution,
and major field of science: 1990

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Division, State, and institution	Total, sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Bio- logical sciences	Psychol- ogy	Social sciences
Illinois, continued									
Northeastern Illinois University	912	20	7	137	100	0	70	0	578
Northern Illinois University	795	92	47	84	114	0	73	96	289
Northwestern University	1,108	232	18	47	162	0	244	100	305
Roosevelt University	330	15	0	45	0	0	17	27	226
Rush University	95	0	0	0	0	0	94	1	0
Sangamon State University	651	0	51	48	100	0	33	237	182
Southern Illinois Univ at Carbondale	1,107	64	53	52	54	44	280	235	325
Southern Illinois Univ at Edwardsville	395	35	82	49	0	0	26	76	127
University of Chicago	1,999	345	41	138	41	0	297	115	1,022
University of Health Sciences (Chicago)	115	0	0	0	0	0	49	66	0
University of Illinois at Chicago	1,445	208	37	231	0	0	327	92	550
University of Illinois at Urbana	3,366	635	65	321	383	226	677	210	849
Western Illinois University	312	30	0	23	51	0	60	38	110
Indiana	6,581	1,013	201	506	393	192	1,045	789	2,442
Ball State University	349	24	16	30	59	0	54	69	97
Butler University	21	12	0	0	0	0	0	0	9
Indiana State University	252	15	0	11	0	0	59	69	98
Indiana University	3,125	339	105	162	186	0	403	224	1,706
Indiana Wesleyan University	0	0	0	0	0	0	0	0	0
Purdue University	2,075	430	80	266	148	192	464	251	244
Rose-Hulman Institute of Technology	11	11	0	0	0	0	0	0	0
Saint Francis College	55	0	0	0	0	0	0	55	0
University of Evansville	8	0	0	0	0	0	0	8	0
University of Notre Dame	596	182	0	37	0	0	65	77	235
Valparaiso University	89	0	0	0	0	0	0	36	53
Michigan	9,546	1,228	479	893	670	405	1,639	1,400	2,832
Andrews University	148	0	0	0	22	0	25	101	0
Central Michigan University	257	41	0	16	12	0	30	99	59
Eastern Michigan University	748	94	0	149	0	0	75	130	300
Grand Valley State University	74	0	0	0	25	0	0	0	49
Michigan State University	2,343	350	96	198	171	356	457	153	562
Michigan Technological University	195	62	22	17	18	46	30	0	0
Northern Michigan University	110	3	0	0	0	0	23	0	84
Oakland University	279	41	0	156	0	0	14	0	68
University of Detroit	388	45	0	6	69	0	16	171	81
University of Michigan	2,378	321	317	181	0	3	565	271	720
Wayne State University	1,495	228	10	77	252	0	377	257	294
Western Michigan University	1,131	43	34	93	101	0	27	218	615
Ohio	12,035	1,629	652	977	783	296	2,016	2,801	2,881
Air Force Institute of Technology	131	0	0	57	60	0	0	0	14
Antioch University	1,104	0	88	0	0	67	0	914	35
Bowling Green State University	559	43	16	89	42	0	77	105	187
Case Western Reserve University	787	122	3	73	43	0	377	47	122
Cleveland State University	654	59	0	20	206	0	47	102	220
John Carroll University	64	29	0	13	0	0	22	0	0
Kent State University	778	103	53	73	60	0	133	121	235
Medical College of Ohio at Toledo	0	0	0	0	0	0	0	0	0
Miami University	427	51	71	29	0	0	82	96	98
NE Ohio Univ Med School	0	0	0	0	0	0	0	0	0
Ohio State University	3,195	467	186	286	220	229	690	234	883
Ohio University	702	88	69	104	0	0	101	150	190
Union Institute	446	0	0	2	10	0	0	403	31
University of Akron	825	312	33	50	0	0	48	88	294
University of Cincinnati	1,097	209	61	59	0	0	265	174	329
University of Dayton	185	0	0	8	38	0	23	45	71
University of Toledo	390	86	26	43	0	0	34	99	102
Wright State University	517	47	46	36	104	0	91	157	36
Xavier University	66	0	0	0	0	0	0	66	0
Youngstown State University	108	13	0	35	0	0	26	0	34
Wisconsin	5,904	660	434	468	310	333	1,206	913	1,580
Marquette University	219	63	0	53	0	0	30	15	58
Medical College of Wisconsin	91	0	0	0	0	0	91	0	0
Milwaukee School of Engineering	0	0	0	0	0	0	0	0	0
University of Wisconsin - Eau Claire	28	0	0	9	0	0	8	11	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-2. Graduate science students in all institutions
by geographic division, State, institution,
and major field of science: 1990

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Division, State, and institution	Total, sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Bio- logical sciences	Psychol- ogy	Social sciences
Wisconsin, continued									
University of Wisconsin - Green Bay	37	0	32	5	0	0	0	0	0
University of Wisconsin - La Crosse	51	0	0	0	0	0	31	20	0
University of Wisconsin - Madison	3,990	484	316	325	206	321	925	353	1,060
University of Wisconsin - Milwaukee	1,137	112	44	66	104	0	76	371	364
University of Wisconsin - Oshkosh	169	1	0	10	0	0	16	46	96
University of Wisconsin - Platteville	12	0	0	0	0	12	0	0	0
University of Wisconsin - River Falls	48	0	0	0	0	0	0	46	2
University of Wisconsin - Stevens Point	42	0	42	0	0	0	0	0	0
University of Wisconsin - Stout	45	0	0	0	0	0	21	24	0
University of Wisconsin - Whitewater	35	0	0	0	0	0	8	27	0
West North Central	19,301	2,102	552	1,526	1,411	1,575	4,273	3,330	4,532
Iowa	3,526	535	80	451	255	294	827	289	795
Drake University	69	4	0	1	0	0	8	6	50
Iowa State University of Sci & Tech	1,967	306	30	203	78	294	500	166	390
Loras College	22	0	0	0	0	0	0	22	0
Maharishi International University	77	12	0	4	18	0	24	19	0
Teikyo Marycrest College	47	0	0	0	47	0	0	0	0
Univ. of Osteopathic Med & Health Sci	0	0	0	0	0	0	0	0	0
University of Iowa	1,281	208	48	229	112	0	289	61	334
University of Northern Iowa	63	5	2	14	0	0	6	15	21
Kansas	3,403	320	83	222	181	289	735	785	788
Emporia State University - Kansas	136	15	0	16	0	0	37	68	0
Fort Hays State University	77	2	10	6	0	0	15	34	10
Kansas State University	1,218	104	11	91	58	289	294	156	215
Pittsburg State University	265	20	0	8	0	0	23	198	16
University of Kansas	1,342	136	50	55	72	0	343	263	423
Washburn University of Topeka	31	0	0	0	0	0	0	31	0
Wichita State University	334	43	12	46	51	0	23	35	124
Minnesota	4,992	446	93	306	366	307	1,106	1,280	1,088
Bemidji State University	22	0	8	8	2	0	4	0	0
Mankato State University	305	23	9	20	61	0	28	38	126
Mayo Graduate School	84	0	0	0	0	0	84	0	0
Moorhead State University	189	0	0	0	65	0	0	124	0
St Mary's College of Minnesota	479	0	0	0	0	0	0	479	0
St. Cloud State University	31	0	0	3	0	0	13	13	2
University of Minnesota	3,882	423	76	275	238	307	977	626	960
Missouri	4,279	500	160	259	403	241	930	675	1,111
Central Missouri State University	225	0	0	10	0	5	7	93	110
Kirkville College of Osteopathic Med	1	0	0	0	0	0	1	0	0
Lincoln University	27	0	0	0	0	0	0	0	27
Northeast Missouri State University	16	0	0	5	0	0	11	0	0
Northwest Missouri State University	71	0	0	0	14	6	3	48	0
Southeast Missouri State University	43	0	0	0	0	0	43	0	0
Southwest Missouri State University	123	0	27	17	0	0	30	0	49
St. Louis University	381	21	35	14	0	0	155	79	77
Univ of Health Sciences (Kansas City)	0	0	0	0	0	0	0	0	0
University of Missouri - Columbia	1,282	118	47	91	0	230	252	106	438
University of Missouri - Kansas City	590	62	0	22	130	0	63	154	159
University of Missouri - Rolla	317	97	19	26	175	0	0	0	0
University of Missouri - St Louis	316	65	0	22	0	0	43	110	76
Washington University	887	137	32	52	84	0	322	85	175
Nebraska	1,818	158	56	222	61	271	372	188	490
Creighton University	76	10	9	33	0	0	24	0	0
Kearney State College	38	0	0	11	0	0	6	21	0
University of Nebraska - Lincoln	1,132	148	47	68	61	271	215	68	254
University of Nebraska - Omaha	505	0	0	110	0	0	60	99	236

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-2. Graduate science students in all institutions
by geographic division, State, institution,
and major field of science: 1990

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Division, State, and institution	Total, sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Bio- logical sciences	Psychol- ogy	Social sciences
Nebraska, continued									
University of Nebraska Medical Center	67	0	0	0	0	0	67	0	0
North Dakota	704	92	23	37	104	111	179	76	82
North Dakota State University	441	61	0	25	79	111	119	12	34
University of North Dakota	263	31	23	12	25	0	60	64	48
South Dakota	579	51	57	29	41	62	124	37	178
South Dakota School of Mines and Tech	104	20	57	0	27	0	0	0	0
South Dakota State University	254	23	0	15	0	62	80	0	74
University of South Dakota	221	8	0	14	14	0	44	37	104
South Atlantic	43,658	4,292	2,272	3,131	4,787	1,555	8,065	6,578	12,978
Delaware	994	174	136	135	100	18	104	61	266
Delaware State College	21	21	0	0	0	0	0	0	0
University of Delaware	973	153	136	135	100	18	104	61	266
District of Columbia	5,925	347	40	286	668	0	650	509	3,425
Catholic University of America	466	86	0	6	0	0	29	112	233
Gallaudet University	0	0	0	0	0	0	0	0	0
George Washington University	2,575	34	38	207	458	0	242	169	1,427
Georgetown University	598	67	0	0	0	0	224	0	307
Howard University	679	80	2	22	37	0	138	90	310
The American University	1,559	80	0	44	173	0	17	112	1,133
University of the District of Columbia	48	0	0	7	0	0	0	26	15
Florida	8,269	799	568	539	1,139	365	1,087	1,640	2,132
Florida A & M University	103	0	0	0	0	8	2	10	83
Florida Atlantic University	389	46	0	19	66	0	30	53	175
Florida Institute of Technology	643	76	45	34	265	0	47	116	60
Florida International University	502	21	12	2	100	1	82	68	216
Florida State University	1,236	175	160	104	147	0	134	132	384
Jacksonville University	31	0	0	15	16	0	0	0	0
Nova University	849	0	39	0	91	0	0	678	41
University of Central Florida	525	58	0	74	168	0	29	56	140
University of Florida	1,948	274	33	135	154	356	410	159	427
University of Miami	810	72	149	59	0	0	197	110	223
University of South Florida	846	77	130	64	0	0	132	139	304
University of West Florida	387	0	0	33	132	0	24	119	79
Georgia	4,975	562	139	310	363	203	1,012	862	1,524
Augusta College	45	0	0	0	0	0	0	45	0
Clark Atlanta University	279	36	0	12	49	0	28	0	154
Emory University	595	145	0	38	0	0	196	99	117
Fort Valley State College	80	0	0	0	0	0	0	80	0
Georgia College	207	0	0	0	41	0	0	0	112
Georgia Institute of Technology	737	206	63	64	182	0	45	64	113
Georgia Southern University	73	0	0	0	0	0	12	12	49
Georgia State University	943	56	15	118	16	0	135	209	394
Institute of Paper Science & Technology	0	0	0	0	0	0	0	0	0
Medical College of Georgia	78	0	0	0	0	0	78	0	0
Mercer University	16	0	0	0	16	0	0	0	0
Morehouse School of Medicine	0	0	0	0	0	0	0	0	0
University of Georgia	1,593	119	61	78	59	203	509	143	421
Valdosta State College	209	0	0	0	0	0	0	53	156
West Georgia College	120	0	0	0	0	0	4	108	8
Maryland	6,401	587	274	505	523	147	1,530	1,251	1,584
Coppin State College	35	0	0	0	0	0	0	0	35
Frostburg State University	54	0	0	0	0	14	5	35	0
Hood College	344	0	0	117	0	0	174	53	0
Johns Hopkins University	998	91	32	59	22	0	478	53	263
Loyola College	478	0	0	0	0	0	0	478	0
Morgan State University	69	0	0	6	0	0	0	0	63
Towson State University	324	0	0	0	0	0	20	247	57
Uniformed Serv Univ of the Hlth Science	92	0	0	0	0	0	66	26	0
University of Baltimore	246	0	0	0	0	0	0	75	171
University of Maryland - Balt Prof Sch	330	0	6	0	0	0	324	0	0
University of Maryland - Baltimore Cnty	724	49	2	95	226	0	118	101	133
University of Maryland - College Park	2,580	447	197	228	230	133	345	138	862
University of Maryland Eastern Shore	82	0	37	0	45	0	0	0	0
Washington College	45	0	0	0	0	0	0	45	0
North Carolina	6,559	775	460	525	396	345	1,854	714	1,490
Appalachian State University	194	12	0	33	0	0	22	75	52
Duke University	1,048	155	29	35	66	43	362	60	298
East Carolina University	249	27	15	18	0	0	76	83	30
North Carolina A & T State University	65	18	0	0	0	0	8	0	39

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Table E-2. Graduate science students in all institutions
by geographic division, State, institution,
and major field of science: 1990

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Division, State, and institution	Total, sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Bio- logical sciences	Psychol- ogy	Social sciences
North Carolina, continued									
North Carolina Central University	74	4	0	11	0	0	14	37	8
North Carolina State Univ at Raleigh	1,693	158	77	236	128	302	413	112	267
Univ of North Carolina at Chapel Hill	2,199	296	304	106	108	0	735	116	534
Univ of North Carolina at Charlotte	349	12	0	30	94	0	17	59	137
Univ of North Carolina at Greensboro	308	38	0	12	0	0	52	128	78
University of North Carolina/Wilmington	64	6	35	10	0	0	13	0	0
Wake Forest University	215	38	0	12	0	0	128	19	18
Western Carolina University	101	11	0	22	0	0	14	25	29
South Carolina									
Clemson University	769	129	0	91	97	122	195	22	113
College of Charleston	84	0	36	0	0	0	0	0	48
Furman University	4	4	0	0	0	0	0	0	0
Medical University of South Carolina	146	0	0	0	0	0	146	0	0
University of South Carolina	1,119	162	135	102	132	0	180	144	264
Winthrop College	49	0	0	7	0	0	24	18	0
Virginia									
College of William and Mary	328	57	110	20	56	0	20	19	46
Eastern Virginia Medical School	111	0	0	0	0	0	51	60	0
George Mason University	1,745	23	0	109	824	0	101	196	492
Hampton University	58	28	0	8	0	0	22	0	0
Hollins College	10	0	0	0	0	0	0	10	0
Institute of Textile Technology	0	0	0	2	0	0	0	0	0
James Madison University	102	0	0	0	28	0	16	30	26
Old Dominion University	666	66	97	45	100	0	96	65	200
Radford University	149	0	0	0	0	0	0	130	19
University of Richmond	23	0	0	0	0	0	9	8	0
University of Virginia	1,214	198	80	92	100	0	225	78	441
Virginia Commonwealth University	1,079	60	0	59	69	0	286	288	317
Virginia Polytechnic Inst and State Uni	1,570	203	94	150	110	284	231	210	288
Virginia State University	56	10	4	10	0	3	10	19	0
West Virginia									
Marshall University	1253	108	99	139	82	68	216	244	297
Univ of West Virginia Coll of Grad Stds	177	40	0	16	0	0	50	24	47
University of Charleston	273	0	51	0	82	0	0	126	14
West Virginia Institute of Technology	7	0	0	0	0	0	7	0	0
West Virginia Sch of Osteopathic Med	0	0	0	0	0	0	0	0	0
West Virginia University	0	0	0	0	0	0	0	0	0
	796	68	48	123	0	68	159	94	236
East South Central									
Alabama	12,428	1,350	277	952	1,248	781	2,556	2,461	2,803
Alabama	3,551	475	47	285	534	255	796	534	625
Alabama A & M University	240	35	0	0	99	0	77	0	29
Alabama State University	13	0	0	10	0	0	3	0	0
Auburn University	1,059	108	16	81	57	212	149	150	286
Jacksonville State University	180	0	0	8	0	0	20	83	69
The University of Alabama	530	76	31	45	31	0	61	99	187
The University of Alabama at Birmingham	557	56	0	23	74	0	359	45	0
The University of Alabama in Huntsville	505	193	0	105	180	0	23	4	0
Troy State University at Montgomery	162	0	0	0	21	0	0	126	15
Tuskegee University	62	7	0	0	0	43	12	0	0
University of Montevallo	0	0	0	0	0	0	0	0	0
University of South Alabama	243	0	0	13	72	0	92	27	39
Kentucky									
Eastern Kentucky University	2,585	219	90	272	139	156	514	463	732
Morehead State University	175	14	5	24	0	0	25	53	54
Murray State University	59	0	0	0	0	0	12	25	22
Spalding University	163	14	25	9	0	23	21	25	46
University of Kentucky	112	0	0	0	0	0	0	112	0
University of Louisville	1,301	112	60	85	121	122	279	114	408
Western Kentucky University	581	64	0	149	0	0	160	93	115
	194	15	0	5	18	11	17	41	87
Mississippi									
Mississippi	2,032	239	57	80	262	268	339	310	477
Jackson State University	238	32	0	9	98	0	41	0	58
Mississippi State University	783	45	26	33	68	268	111	64	168
Mississippi University for Women	0	0	0	0	0	0	0	0	0
University of Mississippi	531	67	17	25	40	0	117	108	157
University of Southern Mississippi	480	95	14	13	56	0	70	138	94
Tennessee									
Tennessee	4,260	417	83	315	313	102	907	1,154	969
Austin Peay State University	54	0	0	0	0	0	7	47	0
East Tennessee State University	253	10	0	12	55	0	76	30	70
Fisk University	23	13	0	0	0	0	3	4	3

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Table E-2. Graduate science students in all institutions
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and major field of science: 1990

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Division, State, and institution	Total, sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Bio- logical sciences	Psychol- ogy	Social sciences
Tennessee, continued									
Meharry Medical College	47	0	0	0	0	0	47	0	0
Memphis State University	667	51	30	105	0	0	57	153	271
Middle Tennessee State University	508	21	0	35	28	0	30	358	36
Tennessee State University	203	7	0	16	0	29	15	77	59
Tennessee Technological University	135	11	0	10	0	0	57	57	0
University of Tennessee at Chattanooga	198	0	0	0	45	0	0	108	45
University of Tennessee at Knoxville	1,366	208	45	106	138	73	324	165	307
University of Tennessee, Memphis	110	0	0	0	0	0	110	0	0
Vanderbilt University	696	96	8	31	47	0	181	155	178
West South Central	26,144	3,093	1,678	1,758	3,690	1,660	4,593	4,475	5,197
Arkansas									
Arkansas State University	238	7	0	7	15	0	32	129	48
University of Arkansas	609	84	13	42	17	165	161	38	89
University of Arkansas - Med Sci Campus	49	0	0	0	0	0	49	0	0
University of Arkansas at Little Rock	134	14	0	13	16	0	0	22	69
University of Central Arkansas	180	0	0	0	0	0	11	158	11
Louisiana	3,332	352	239	270	474	142	679	494	682
Grambling State University	9	0	0	0	0	0	9	0	0
Louisiana State University System	1,787	230	166	121	114	142	423	153	438
Louisiana Tech University	59	10	0	6	24	0	19	0	0
Loyola University in New Orleans	2	0	0	0	0	0	2	0	0
McNeese State University	109	14	0	25	0	0	30	40	0
Nicholls State University	43	0	0	9	0	0	0	34	0
Northeast Louisiana University	141	18	25	0	0	0	30	68	0
Northwest State University	46	0	0	0	0	0	0	46	0
Southeastern Louisiana University	30	0	0	0	0	0	14	16	0
Southern University A & M College	210	18	5	17	76	0	0	45	49
Tulane University of Louisiana	509	50	16	35	37	0	120	66	185
University of Southwestern Louisiana	387	12	27	57	223	0	32	26	10
Xavier University	0	0	0	0	0	0	0	0	0
Oklahoma	2,576	261	254	179	151	132	474	472	653
East Central University	8	0	0	0	0	0	0	8	0
Northeastern State University	139	0	0	0	0	0	0	107	32
Oklahoma State University	1,136	105	40	90	116	132	222	225	206
Southwestern Oklahoma State University	68	10	0	15	0	0	7	22	14
University of Oklahoma	1,077	146	200	64	0	0	233	40	394
University of Tulsa	148	0	14	10	35	0	12	70	7
Texas	19,026	2,375	1,172	1,247	3,017	1,221	3,187	3,162	3,645
Abilene Christian University	93	2	0	0	0	0	5	57	29
Angelo State University	125	0	0	6	0	14	11	71	23
Baylor College of Dentistry	3	0	0	0	0	0	3	0	0
Baylor College of Medicine	239	0	0	0	0	0	239	0	0
Baylor University	320	49	52	12	37	0	17	115	38
Corpus Christi State University	99	0	0	0	44	2	19	34	0
East Texas State University	363	27	15	24	150	26	12	77	32
Incarnate Word College	57	0	0	0	0	0	36	0	21
Lamar University	133	15	0	8	69	0	13	16	12
Midwestern State University	149	0	0	0	36	0	20	20	73
Prairie View A & M University	129	11	0	31	0	48	7	0	32
Rice University	542	176	72	65	58	0	46	45	80
Sam Houston State University	343	35	0	19	36	37	12	46	158
Southern Methodist University	452	2	29	47	207	0	15	36	116
Southwest Texas State University	506	25	0	27	105	0	68	54	227
St Mary's University of San Antonio	0	0	0	0	0	0	0	0	0
Stephen F. Austin State University	204	14	12	23	6	58	38	53	0
Sul Ross State University	52	0	11	0	0	13	15	0	13
Tarleton State University	58	0	0	0	0	28	18	0	12
Texas A & I University	165	4	17	20	14	55	5	30	20
Texas A & M University	3,276	467	326	145	253	801	439	301	544
Texas Christian University	131	36	18	0	28	0	8	32	9
Texas College of Osteopathic Medicine	0	0	0	0	0	0	0	0	0
Texas Southern University	175	20	0	20	0	0	24	60	51
Texas Tech University	954	123	62	65	87	110	115	232	140
Texas Woman's University	591	8	0	85	0	0	268	205	25
The University of Texas - Pan American	9	0	0	0	0	0	9	0	0

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Table E-2. Graduate science students in all institutions
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and major field of science: 1990

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Division, State, and institution	Total sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Bio- logical sciences	Psychol- ogy	Social sciences
Texas, continued									
Trinity University	0	0	0	0	0	0	0	0	0
Univ of Texas Hlth Sci Ctr San Antonio	130	0	0	0	0	0	130	0	0
Univ of Texas Hlth Sci Ctr at Houston	400	0	0	0	0	0	368	18	14
Univ of Texas MD Anderson Cancer Center	0	0	0	0	0	0	0	0	0
Univ of Texas Med Branch at Galveston	112	0	0	0	0	0	112	0	0
Univ of Texas SW Medical Ctr at Dallas	243	0	0	0	0	0	194	49	0
Univ of Texas at Arlington	930	72	37	66	330	0	46	30	349
Univ of Texas at Austin	2,458	604	181	172	233	0	322	145	801
Univ of Texas at Dallas	920	161	94	94	333	0	54	41	143
Univ of Texas at El Paso	335	34	41	23	35	0	37	36	129
University of Central Texas	102	0	0	0	28	0	0	63	11
University of Houston - Victoria	29	0	0	0	0	0	0	29	0
University of Houston at Clear Lake Cit	1,114	114	0	49	345	0	39	567	0
University of Houston-University Park	1,437	219	122	101	189	0	145	375	286
University of North Texas	1,082	137	0	74	278	0	194	207	192
University of Texas at San Antonio	212	10	83	39	49	0	51	0	0
University of Texas at Tyler	173	0	0	0	67	0	8	67	31
University of Texas of the Permian Basi	52	0	13	0	0	0	0	31	0
West Texas State University	129	10	7	12	0	29	17	20	34
Mountain	17,776	2,575	1,821	1,158	1,861	1,138	2,651	1,987	4,585
Arizona									
Arizona State University	1,579	201	61	76	324	36	145	95	641
Northern Arizona University	817	18	62	22	0	40	66	426	183
University of Arizona	2,367	526	398	146	201	68	482	93	453
Colorado									
Colorado School of Mines	474	89	245	54	0	0	0	0	86
Colorado State University	1,257	119	139	88	52	326	265	120	148
National Technological University	100	0	0	0	100	0	0	0	0
University of Colorado	2,450	410	176	162	205	0	340	222	935
University of Denver	929	48	0	19	347	0	16	217	282
University of Northern Colorado	190	10	12	68	0	0	27	63	10
Idaho									
Idaho State University	254	23	29	25	0	0	102	26	49
University of Idaho	715	73	83	30	57	195	143	29	105
Montana									
Montana College Mineral Sci & Technolog	5	2	0	0	0	0	0	0	3
Montana State University	373	108	21	43	33	18	135	0	15
University of Montana	486	17	117	35	39	45	68	61	104
Nevada									
University of Nevada at Las Vegas	191	21	18	11	0	0	23	24	94
University of Nevada at Reno	595	81	106	12	52	37	83	66	158
New Mexico									
Eastern New Mexico University	88	10	0	12	0	0	8	41	17
New Mexico Highlands University	57	7	0	0	0	0	14	18	18
New Mexico Institute of Mining and Tech	187	40	92	11	33	0	11	0	0
New Mexico State University	611	120	35	39	63	102	55	50	147
University of New Mexico	996	191	59	74	99	0	155	79	339
Utah									
Brigham Young University	504	56	12	54	48	8	51	126	149
University of Utah	1,082	262	81	83	84	0	195	65	312
Utah State University	861	88	10	36	89	211	136	114	177
Wyoming									
University of Wyoming	608	55	65	58	35	52	131	52	160
University of Wyoming	608	55	65	58	35	52	131	52	160
Pacific	46,460	4,978	2,275	2,690	4,940	1,844	7,351	10,164	12,218
Alaska									
University of Alaska Southeast	20	0	0	0	0	0	0	0	20
University of Alaska at Anchorage	49	0	0	0	0	0	10	39	0
University of Alaska at Fairbanks	385	52	95	21	0	51	110	19	37
California									
Azusa Pacific University	183	0	0	0	183	0	0	0	0
Biola University	190	0	0	0	0	0	0	190	0
Calif Poly State Univ at San Luis Obisp	226	4	0	25	81	82	19	0	15

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-2. Graduate science students in all institutions
by geographic division, State, institution,
and major field of science: 1990

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Division, State, and institution	Total sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathematical sciences	Computer sciences	Agricultural sciences	Bio-logical sciences	Psychology	Social sciences
California, continued									
Calif Sch of Prof Psych - Fresno	251	0	0	0	0	0	0	251	0
Calif Sch of Prof Psych - Los Angeles	585	0	0	0	0	0	0	585	0
Calif Sch of Prof Psych - San Diego	519	0	0	0	0	0	0	519	0
Calif Sch of Prof Psych-Berkeley/Alamed	512	0	0	0	0	0	0	512	0
Calif State Polytechnic Univ at Pomona	314	21	0	31	54	87	49	190	72
Calif State Univ at Dominguez Hills	397	0	0	0	0	0	34	190	173
Calif State Univ at Fullerton	735	26	57	65	193	0	47	51	296
Calif State Univ at Hayward	792	17	17	31	50	0	21	316	318
Calif State Univ at Long Beach	1,163	80	17	52	149	0	104	163	598
Calif State Univ at Los Angeles	662	42	51	40	0	0	66	183	260
Calif State Univ at San Bernardino	156	0	0	20	0	0	16	57	63
Calif State Univ of Stanislaus	114	0	0	0	0	0	10	49	55
Calif State University at Chico	423	0	7	0	92	17	39	93	175
Calif State University at Fresno	490	30	13	33	0	107	57	210	40
Calif State University at Northridge	629	60	17	67	151	0	104	109	121
Calif State University at Sacramento	509	21	0	27	99	0	30	89	243
California Institute of Integral Studie	250	0	0	0	0	0	0	250	0
California Institute of Technology	669	372	81	42	58	0	93	0	23
California State Univ - Bakersfield	112	0	10	0	0	0	0	43	59
Chapman College	181	0	0	0	0	0	47	134	0
Charles R. Drew Univ of Medicine & Sci	0	0	0	0	0	0	0	0	0
Claremont Univ Center & Graduate School	511	0	0	41	121	0	13	108	228
Dominican College of San Rafael	107	0	0	0	0	0	0	59	48
Fuller Theological Seminary	338	0	0	0	0	0	0	338	0
Golden Gate University	354	0	0	0	0	0	0	0	354
Harvey Mudd College	0	0	0	0	0	0	0	0	0
Humboldt State University	250	0	0	0	0	96	41	79	34
John F. Kennedy University	771	0	0	0	0	0	85	771	0
Loma Linda University	92	0	7	0	0	0	0	95	0
Loyola Marymount University	144	0	17	0	32	0	0	282	27
National University	353	0	0	0	44	0	0	0	0
Northrop University	138	0	0	0	138	0	0	0	0
Occidental College	1	0	0	0	0	0	1	0	0
Pacific Grad School of Prof Psych	368	0	0	0	0	0	0	368	0
Pacific States University	0	0	0	0	0	0	0	0	0
Pepperdine University	731	0	0	0	0	0	0	731	0
Rand Graduate School of Policy Studies	48	0	0	0	0	0	0	0	48
San Diego State University	1,190	108	39	63	121	0	316	170	373
San Francisco State University	868	77	8	37	100	0	146	153	347
San Jose State University	911	126	60	36	217	0	97	107	268
Santa Clara University	523	0	0	20	407	0	0	96	0
Sonoma State University	152	0	0	0	0	0	26	71	55
Stanford University	1,961	347	150	211	392	0	318	52	491
The Fielding Institute	473	0	0	0	0	0	0	473	0
The Wright Institute	207	0	0	0	0	0	0	207	0
US International University	519	0	0	0	0	0	0	519	0
US Naval Postgraduate School	614	83	80	165	286	0	0	0	0
University of Calif at Berkeley	3,128	656	105	329	188	165	679	126	880
University of Calif at Davis	2,107	223	64	82	79	270	1,014	49	326
University of Calif at Irvine	934	224	0	60	113	0	223	45	269
University of Calif at Los Angeles	2,409	452	131	217	231	0	432	196	747
University of Calif at Riverside	711	121	34	72	21	25	225	26	157
University of Calif at San Diego	1,479	311	183	107	98	0	268	77	435
University of Calif at San Francisco	391	0	0	0	3	0	310	19	59
University of Calif at Santa Barbara	1,025	189	64	90	106	0	145	58	373
University of Calif at Santa Cruz	569	138	95	41	48	0	98	53	96
University of La Verne	141	0	0	0	0	0	0	0	141
University of Redlands	52	0	18	0	0	0	0	0	34
University of San Diego	60	8	0	0	18	0	6	0	28

See explanatory information, if any, and SOURCE(5) at end of table.

Table E-2. Graduate science students in all institutions
by geographic division, State, institution,
and major field of science: 1990

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Division, State, and institution	Total, sciences	Physical sciences	Earth, atmos., & ocean sciences	Mathe- matical sciences	Computer sciences	Agricul- tural sciences	Bio- logical sciences	Psychol- ogy	Social sciences
California, continued									
University of Southern California	2,561	171	83	105	385	0	305	104	1,408
University of the Pacific	42	17	0	0	0	0	8	17	0
West Coast University	99	0	0	0	99	0	0	0	0
Hawaii	1,419	112	144	25	56	91	288	96	607
University of Hawaii at Manoa	1,419	112	144	25	56	91	288	96	607
Oregon	2,892	438	224	241	277	373	542	88	709
Oregon Grad Inst of Science & Technolog	125	24	35	0	66	0	0	0	0
Oregon Health Sciences University	102	0	0	0	0	0	88	14	0
Oregon State University	1,278	153	99	110	113	373	329	0	101
Pacific University	0	0	0	0	0	0	0	0	0
Portland State University	583	24	50	59	34	0	20	25	371
Southern Oregon State College	28	0	0	0	0	0	0	0	28
University of Oregon	776	237	40	72	64	0	105	49	209
University of Portland	0	0	0	0	0	0	0	0	0
Washington	4,301	452	402	254	250	480	906	449	1,108
Central Washington University	119	0	0	4	0	14	28	73	0
Eastern Washington University	220	0	16	19	35	0	19	75	56
Gonzaga University	0	0	0	0	0	0	0	0	0
Pacific Lutheran University	58	0	0	0	17	0	0	0	41
Saint Martin's College	0	0	0	0	0	0	0	0	0
Seattle University	129	0	0	0	0	0	0	40	89
University of Washington	2,638	359	248	165	142	335	591	154	644
Walla Walla College	3	0	0	0	0	0	3	0	0
Washington State University	897	88	70	43	32	131	249	55	229
Western Washington University	237	5	68	23	24	0	16	52	49
Whitworth College	0	0	0	0	0	0	0	0	0
Outlying Areas	1,661	140	60	85	0	64	181	470	661
Guam	0	0	0	0	0	0	0	0	0
University of Guam	0	0	0	0	0	0	0	0	0
Puerto Rico	1,661	140	60	85	0	64	181	470	661
Caribbean Center for Advanced Studies	216	0	0	0	0	0	0	216	0
Catholic University of Puerto Rico	0	0	0	0	0	0	0	0	0
Ponce School of Medicine	19	0	0	0	0	0	19	0	0
University of Puerto Rico	249	35	60	22	0	64	57	0	11
University of Puerto Rico - Rio Piedras	1,100	105	0	63	0	0	49	254	629
University of Puerto Rico Med Sci Campu	77	0	0	0	0	0	56	0	21

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students
and Postdoctorates in Science and Engineering

Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

Page 1 of 11

Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
Total, all institutions	109,299	6,734	15,891	33,887	11,816	16,879	4,822	19,270
New England	9,435	717	1,235	3,026	859	1,553	344	1,701
Connecticut	1,473	44	158	380	57	493	142	199
Central Connecticut State University	0	0	0	0	0	0	0	0
Connecticut College	0	0	0	0	0	0	0	0
Quinnipiac College	0	0	0	0	0	0	0	0
Southern Connecticut State University	0	0	0	0	0	0	0	0
St. Joseph College	0	0	0	0	0	0	0	0
The Hartford Graduate Center	477	0	0	144	0	290	21	22
Trinity College	0	0	0	0	0	0	0	0
University of Bridgeport	154	0	0	66	34	54	0	0
University of Connecticut	534	44	96	148	0	125	121	0
University of Hartford	0	0	0	0	0	0	0	0
University of New Haven	131	0	62	22	23	24	0	0
Wesleyan University	0	0	0	0	0	0	0	0
Western Connecticut State University	0	0	0	0	0	0	0	0
Yale University	177	0	0	0	0	0	0	177
Maine	128	18	65	32	0	9	0	4
University of Maine	128	18	65	32	0	9	0	4
University of New England	0	0	0	0	0	0	0	0
Massachusetts	7,040	621	929	2,399	783	941	182	1,185
American International College	0	0	0	0	0	0	0	0
Anna Maria College	0	0	0	0	0	0	0	0
Assumption College	0	0	0	0	0	0	0	0
Boston College	0	0	0	0	0	0	0	0
Boston University	700	0	0	312	59	0	0	329
Brandeis University	0	0	0	0	0	0	0	0
Bridgewater State College	0	0	0	0	0	0	0	0
Clark University	0	0	0	0	0	0	0	0
Emerson College	0	0	0	0	0	0	0	0
Framingham State College	0	0	0	0	0	0	0	0
Harvard University	184	0	19	0	0	0	0	165
HGH Institute of Health Professions	0	0	0	0	0	0	0	0
Mass College of Pharmacy/Allied Health	0	0	0	0	0	0	0	0
Massachusetts Institute of Technology	2,227	219	422	472	0	427	182	505
Mount Holyoke College	0	0	0	0	0	0	0	0
Northeastern University	1,106	23	174	583	200	126	0	0
Salem State College	0	0	0	0	0	0	0	0
Smith College	0	0	0	0	0	0	0	0
Southeastern Massachusetts University	67	0	0	55	0	0	0	12
Tufts University	312	44	86	123	0	38	0	21
University of Lowell	992	249	74	399	176	63	0	31
University of Massachusetts	679	66	79	271	103	130	0	30
Western New England College	143	0	0	18	119	6	0	0
Williams College	0	0	0	0	0	0	0	0
Woods Hole Oceanographic Institution	0	0	0	0	0	0	0	0
Worcester Polytechnic Institute	630	20	75	166	126	151	0	92
Worcester State College	0	0	0	0	0	0	0	0
New Hampshire	248	5	26	50	0	21	0	146
Dartmouth College	104	0	0	0	0	0	0	104
Rivier College	0	0	0	0	0	0	0	0
University of New Hampshire	144	5	26	50	0	21	0	42
Rhode Island	432	29	46	120	19	66	0	152
Brown University	104	0	0	0	0	0	0	104
Providence College	0	0	0	0	0	0	0	0
Rhode Island College	0	0	0	0	0	0	0	0
University of Rhode Island	328	29	46	120	19	66	0	48
Vermont	114	0	11	45	0	23	20	15
Goddard College	0	0	0	0	0	0	0	0
Marlboro College	0	0	0	0	0	0	0	0
Middlebury College	0	0	0	0	0	0	0	0
University of Vermont & St Agric Colleg	114	0	11	45	0	23	20	15
Middle Atlantic	17,857	1,258	2,568	5,697	1,550	2,902	1,156	2,726
New Jersey	3,327	276	663	1,086	256	592	235	219
Drew University	0	0	0	0	0	0	0	0
Fairleigh Dickinson University	96	0	0	89	1	2	0	4
Kean College of New Jersey	0	0	0	0	0	0	0	0
Morrmouth College(NJ)	119	0	0	119	0	0	0	0
Montclair State College	0	0	0	0	0	0	0	0
New Jersey Institute of Technology	1,338	67	385	371	211	202	0	102

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
New Jersey, continued								
Princeton University	342	59	106	91	0	86	0	0
Rutgers the State University	803	69	75	243	44	94	165	113
Seton Hall University	0	0	0	0	0	0	0	0
Stevens Institute of Technology	629	81	97	173	0	208	70	0
Trenton State College	0	0	0	0	0	0	0	0
Univ of Med and Dent of New Jersey	0	0	0	0	0	0	0	0
William Paterson College	0	0	0	0	0	0	0	0
New York	8,359	495	1,336	3,109	610	1,320	489	1,000
Adelphi University	0	0	0	0	0	0	0	0
Albany Medical Center Graduate School	0	0	0	0	0	0	0	0
Alfred University	103	0	0	1	24	1	77	0
CUNY Bernard Baruch College	0	0	0	0	0	0	0	0
CUNY Brooklyn College	0	0	0	0	0	0	0	0
CUNY City College	375	24	109	153	0	89	0	0
CUNY College of Staten Island St George	0	0	0	0	0	0	0	0
CUNY Graduate School and Univ Center	134	23	16	71	0	24	0	0
CUNY Herbert H. Lehman College	0	0	0	0	0	0	0	0
CUNY Hunter College	0	0	0	0	0	0	0	0
CUNY John Jay College of Crim Justice	0	0	0	0	0	0	0	0
CUNY Mt. Sinai Sch of Medicine	0	0	0	0	0	0	0	0
CUNY Queens College	0	0	0	0	0	0	0	0
Clarkson University	224	56	47	61	0	60	0	0
College of New Rochelle	0	0	0	0	0	0	0	0
College of St Rose	0	0	0	0	0	0	0	0
Columbia University Main Division	800	48	86	318	104	86	0	158
Columbia University Teachers College	0	0	0	0	0	0	0	0
Cooper Union	53	0	0	0	0	0	0	53
Cornell University	924	70	193	246	0	116	94	205
Fordham University	0	0	0	0	0	0	0	0
Hofstra University	0	0	0	0	0	0	0	0
Iona College	0	0	0	0	0	0	0	0
Ithaca College	0	0	0	0	0	0	0	0
Long Island University	0	0	0	0	0	0	0	0
Marhattan College	310	19	142	101	0	48	0	0
Marist College	0	0	0	0	0	0	0	0
New School for Social Research	0	0	0	0	0	0	0	0
New York Institute of Technology	161	0	0	0	161	0	0	0
New York Medical College	0	0	0	0	0	0	0	0
New York University	0	0	0	0	0	0	0	0
Niagara University	0	0	0	0	0	0	0	0
Pace University	0	0	0	0	0	0	0	0
Polytechnic University	1,143	25	167	714	98	77	38	24
Pratt Institute	17	0	0	17	0	0	0	0
Rensselaer Polytechnic Institute	1,213	70	75	366	97	308	206	91
Rochester Institute of Technology	248	0	0	121	29	29	33	36
Rockefeller University	0	0	0	0	0	0	0	0
Russell Sage College	0	0	0	0	0	0	0	0
SUNY - Albany	0	0	0	0	0	0	0	0
SUNY - Binghamton	426	0	0	0	0	0	0	426
SUNY - Buffalo	929	66	350	208	97	201	0	7
SUNY - Coll of Env Science and Forestry	87	0	87	0	0	0	0	0
SUNY - Health Sci Ctr at Brooklyn	0	0	0	0	0	0	0	0
SUNY - Health Sci Ctr at Syracuse	0	0	0	0	0	0	0	0
SUNY - Stony Brook	207	0	0	99	0	67	41	0
SUNY College at Brockport	0	0	0	0	0	0	0	0
SUNY College at Buffalo	0	0	0	0	0	0	0	0
SUNY College at Cortland	0	0	0	0	0	0	0	0
SUNY College at Fredonia	0	0	0	0	0	0	0	0
SUNY College at Geneseo	0	0	0	0	0	0	0	0
SUNY College at New Paltz	0	0	0	0	0	0	0	0
SUNY College at Oneonta	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
New York, continued								
SUNY College at Oswego	0	0	0	0	0	0	0	0
SUNY College at Plattsburgh	0	0	0	0	0	0	0	0
SUNY College at Potsdam	0	0	0	0	0	0	0	0
SUNY College of Technology at Utica/Rom	0	0	0	0	0	0	0	0
SUNY State College of Optometry	0	0	0	0	0	0	0	0
Sarah Lawrence College	0	0	0	0	0	0	0	0
St Bonaventure University	0	0	0	0	0	0	0	0
St John's University	0	0	0	0	0	0	0	0
Syracuse University	734	38	64	532	0	100	0	0
Union College(NY)	70	0	0	21	0	49	0	0
University of Rochester	201	56	0	80	0	65	0	0
Vassar College	0	0	0	0	0	0	0	0
Wagner College	0	0	0	0	0	0	0	0
Yeshiva University	0	0	0	0	0	0	0	0
Pennsylvania	6,171	487	569	1,502	684	990	432	1,507
Bloomsburg University of Pennsylvania	0	0	0	0	0	0	0	0
Bryn Mawr College	0	0	0	0	0	0	0	0
Bucknell University	31	7	10	5	0	9	0	0
California University of Pennsylvania	0	0	0	0	0	0	0	0
Carnegie-Mellon University	623	95	72	232	0	112	61	51
Clarion University of Pennsylvania	0	0	0	0	0	0	0	0
Drexel University	920	30	85	386	101	152	68	98
Duquesne University	0	0	0	0	0	0	0	0
East Stroudsburg Univ of Pennsylvania	0	0	0	0	0	0	0	0
Edinboro University of Pennsylvania	0	0	0	0	0	0	0	0
Gannon University	35	0	0	20	0	15	0	0
Hahnemann University	0	0	0	0	0	0	0	0
Indiana University of Pennsylvania	0	0	0	0	0	0	0	0
Kutztown University of Pennsylvania	0	0	0	0	0	0	0	0
Lehigh University	446	105	84	0	78	91	88	0
Mansfield University of Pennsylvania	0	0	0	0	0	0	0	0
Marywood College	0	0	0	0	0	0	0	0
Millersville University of Pennsylvania	18	0	0	0	18	0	0	0
Pennsylvania State University	2,120	86	111	256	132	332	105	1,098
Phila College of Osteopathic Medicine	0	0	0	0	0	0	0	0
Philadelphia Coll of Pharmacy and Sci	0	0	0	0	0	0	0	0
Shippensburg University of Pennsylvania	0	0	0	0	0	0	0	0
Slippery Rock University of Pennsylvania	0	0	0	0	0	0	0	0
St Joseph's University	0	0	0	0	0	0	0	0
Swarthmore College	0	0	0	0	0	0	0	0
Temple University	78	0	0	11	67	0	0	0
The Medical College of Pennsylvania	0	0	0	0	0	0	0	0
Thomas Jefferson University	0	0	0	0	0	0	0	0
University of Pennsylvania	597	55	5	84	105	65	48	235
University of Pittsburgh	799	69	120	247	141	135	62	25
University of Scranton	0	0	0	0	0	0	0	0
Villanova University	341	36	76	176	0	53	0	0
West Chester University of Pennsylvania	0	0	0	0	0	0	0	0
Widener University	150	4	6	72	42	26	0	0
Wilkes University	13	0	0	13	0	0	0	0
East North Central	19,478	1,158	2,370	5,260	2,164	3,370	1,094	4,062
Illinois	4,145	248	806	1,411	157	772	358	393
Bradley University	164	0	18	36	48	62	0	0
Chicago Coll of Osteo Medicine	0	0	0	0	0	0	0	0
Chicago School of Prof Psych	0	0	0	0	0	0	0	0
Chicago State University	0	0	0	0	0	0	0	0
De Paul University	0	0	0	0	0	0	0	0
Eastern Illinois University	0	0	0	0	0	0	0	0
Forest Institute of Prof Psych	0	0	0	0	0	0	0	0
Governors State University	0	0	0	0	0	0	0	0
Illinois Institute of Technology	644	71	140	253	0	116	64	0
Illinois State University	0	0	0	0	0	0	0	0
Loyola University of Chicago	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
Illinois, continued								
Northeastern Illinois University	0	0	0	0	0	0	0	0
Northern Illinois University	112	0	0	41	55	16	0	0
Northwestern University	630	61	95	111	54	82	138	89
Roosevelt University	0	0	0	0	0	0	0	0
Rush University	0	0	0	0	0	0	0	0
Sangamon State University	0	0	0	0	0	0	0	0
Southern Illinois Univ at Carbondale	219	0	31	82	0	39	0	67
Southern Illinois Univ at Edwardsville	90	0	24	66	0	0	0	0
University of Chicago	0	0	0	0	0	0	0	0
University of Health Sciences (Chicago)	0	0	0	0	0	0	0	0
University of Illinois at Chicago	889	50	191	388	0	227	0	33
University of Illinois at Urbana	1,397	66	307	434	0	230	156	204
Western Illinois University	0	0	0	0	0	0	0	0
Indiana	1,971	173	240	692	156	306	50	354
Ball State University	0	0	0	0	0	0	0	0
Butler University	0	0	0	0	0	0	0	0
Indiana State University	28	0	0	28	0	0	0	0
Indiana University	41	0	0	0	0	0	0	41
Indiana Wesleyan University	0	0	0	0	0	0	0	0
Purdue University	1,556	127	215	526	146	249	33	260
Rose-Hulman Institute of Technology	124	4	2	62	0	56	0	0
Saint Francis College	0	0	0	0	0	0	0	0
University of Evansville	11	0	0	0	10	1	0	0
University of Notre Dame	211	42	23	76	0	0	17	53
Valparaiso University	0	0	0	0	0	0	0	0
Michigan	5,167	196	343	1,046	578	808	191	2,005
Andrews University	0	0	0	0	0	0	0	0
Central Michigan University	0	0	0	0	0	0	0	0
Eastern Michigan University	216	0	0	0	216	0	0	0
Grand Valley State University	0	0	0	0	0	0	0	0
Michigan State University	485	57	104	136	0	63	76	49
Michigan Technological University	269	21	29	65	0	87	43	24
Northern Michigan University	0	0	0	0	0	0	0	0
Oakland University	337	0	0	0	0	0	0	337
University of Detroit	141	17	16	28	38	42	0	0
University of Michigan	2,387	77	194	785	202	573	72	484
Wayne State University	1,111	0	0	0	0	0	0	1,111
Western Michigan University	221	24	0	32	122	43	0	0
Ohio	5,792	414	616	1,614	745	1,187	359	857
Air Force Institute of Technology	522	0	0	220	38	0	0	264
Antioch University	42	0	0	0	42	0	0	0
Bowling Green State University	0	0	0	0	0	0	0	0
Case Western Reserve University	690	43	33	214	51	131	109	109
Cleveland State University	364	25	41	118	87	93	0	0
John Carroll University	0	0	0	0	0	0	0	0
Kent State University	0	0	0	0	0	0	0	0
Medical College of Ohio at Toledo	0	0	0	0	0	0	0	0
Miami University	14	14	0	0	0	0	0	0
NE Ohio Univ Med School	0	0	0	0	0	0	0	0
Ohio State University	1,185	68	171	328	83	263	82	190
Ohio University	238	21	22	79	57	59	0	0
Union Institute	0	0	0	0	0	0	0	0
University of Akron	488	143	63	80	0	165	0	37
University of Cincinnati	981	51	219	190	0	269	83	169
University of Dayton	686	8	11	214	183	108	74	88
University of Toledo	278	41	44	81	23	89	0	0
Wright State University	243	0	0	62	181	0	0	0
Xavier University	0	0	0	0	0	0	0	0
Youngstown State University	61	0	12	28	0	10	11	0
Wisconsin	2,403	127	365	497	528	297	136	453
Marquette University	401	0	73	198	0	85	0	45
Medical College of Wisconsin	0	0	0	0	0	0	0	0
Milwaukee School of Engineering	316	0	0	0	255	0	0	61
University of Wisconsin - Eau Claire	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
Wisconsin, continued								
University of Wisconsin - Green Bay	0	0	0	0	0	0	0	0
University of Wisconsin - La Crosse	0	0	0	0	0	0	0	0
University of Wisconsin - Madison	1,154	127	139	299	148	212	136	93
University of Wisconsin - Milwaukee	407	0	153	0	0	0	0	254
University of Wisconsin - Oshkosh	0	0	0	0	0	0	0	0
University of Wisconsin - Platteville	12	0	0	0	12	0	0	0
University of Wisconsin - River Falls	0	0	0	0	0	0	0	0
University of Wisconsin - Stevens Point	0	0	0	0	0	0	0	0
University of Wisconsin - Stout	113	0	0	0	113	0	0	0
University of Wisconsin - Whitewater	0	0	0	0	0	0	0	0
West North Central	6,334	506	1,107	1,591	915	1,244	169	802
Iowa	1,224	77	294	243	144	206	38	222
Drake University	0	0	0	0	0	0	0	0
Iowa State University of Sci & Tech	784	51	194	142	89	92	38	178
Loras College	0	0	0	0	0	0	0	0
Maharishi International University	0	0	0	0	0	0	0	0
Teikyo Marycrest College	0	0	0	0	0	0	0	0
Univ. of Osteopathic Med & Health Sci	0	0	0	0	0	0	0	0
University of Iowa	440	26	100	101	55	114	0	44
University of Northern Iowa	0	0	0	0	0	0	0	0
Kansas	1,082	48	220	244	223	132	0	215
Emporia State University - Kansas	0	0	0	0	0	0	0	0
Fort Hays State University	0	0	0	0	0	0	0	0
Kansas State University	277	21	25	78	48	49	0	56
Pittsburg State University	55	0	0	0	0	0	0	55
University of Kansas	439	27	195	73	70	43	0	31
Washburn University of Topeka	0	0	0	0	0	0	0	0
Wichita State University	311	0	0	93	105	40	0	73
Minnesota	1,220	223	207	243	0	388	0	159
Bemidji State University	0	0	0	0	0	0	0	0
Mankato State University	0	0	0	0	0	0	0	0
Mayo Graduate School	0	0	0	0	0	0	0	0
Moorhead State University	0	0	0	0	0	0	0	0
St Mary's College of Minnesota	0	0	0	0	0	0	0	0
St. Cloud State University	0	0	0	0	0	0	0	0
University of Minnesota	1,220	223	207	243	0	388	0	159
Missouri	2,036	115	184	719	430	400	82	106
Central Missouri State University	48	0	0	0	48	0	0	0
Kirkville College of Osteopathic Med	0	0	0	0	0	0	0	0
Lincoln University	0	0	0	0	0	0	0	0
Northeast Missouri State University	0	0	0	0	0	0	0	0
Northwest Missouri State University	0	0	0	0	0	0	0	0
Southeast Missouri State University	0	0	0	0	0	0	0	0
Southwest Missouri State University	0	0	0	0	0	0	0	0
St. Louis University	0	0	0	0	0	0	0	0
Univ of Health Sciences (Kansas City)	0	0	0	0	0	0	0	0
University of Missouri - Columbia	512	34	62	221	63	66	0	66
University of Missouri - Kansas City	0	0	0	0	0	0	0	0
University of Missouri - Rolla	907	28	54	289	259	155	82	40
University of Missouri - St Louis	0	0	0	0	0	0	0	0
Washington University	569	53	68	209	60	179	0	0
Nebraska	392	27	117	69	71	76	0	32
Creighton University	0	0	0	0	0	0	0	0
Kearney State College	0	0	0	0	0	0	0	0
University of Nebraska - Lincoln	392	27	117	69	71	76	0	32
University of Nebraska - Omaha	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
Nebraska, continued								
University of Nebraska Medical Center	0	0	0	0	0	0	0	0
North Dakota	137	7	25	42	11	15	0	37
North Dakota State University	108	0	17	32	11	11	0	37
University of North Dakota	29	7	8	10	0	4	0	0
South Dakota	243	9	60	31	36	27	49	31
South Dakota School of Mines and Tech	138	9	34	11	0	18	49	17
South Dakota State University	105	0	26	20	36	9	0	14
University of South Dakota	0	0	0	0	0	0	0	0
South Atlantic	16,340	787	2,367	4,783	2,644	2,038	583	3,138
Delaware	318	128	50	61	0	79	0	0
Delaware State College	0	0	0	0	0	0	0	0
University of Delaware	318	128	50	61	0	79	0	0
District of Columbia	1,935	0	369	563	837	166	0	0
Catholic University of America	270	0	42	93	0	135	0	0
Gallaudet University	0	0	0	0	0	0	0	0
George Washington University	1,563	0	301	425	837	0	0	0
Georgetown University	0	0	0	0	0	0	0	0
Howard University	102	0	26	45	0	31	0	0
The American University	0	0	0	0	0	0	0	0
University of the District of Columbia	0	0	0	0	0	0	0	0
Florida	3,428	102	472	1,120	306	370	135	923
Florida A & M University	24	0	24	0	0	0	0	0
Florida Atlantic University	306	0	8	164	8	70	0	56
Florida Institute of Technology	251	10	35	151	0	35	0	20
Florida International University	143	0	33	57	2	31	0	0
Florida State University	145	19	32	63	0	31	0	0
Jacksonville University	0	0	0	0	0	0	0	0
Nova University	0	0	0	0	0	0	0	0
University of Central Florida	559	0	0	0	0	0	0	559
University of Florida	1,104	43	219	293	49	140	135	225
University of Miami	252	0	35	48	69	37	0	63
University of South Florida	644	30	66	344	178	26	0	0
University of West Florida	0	0	0	0	0	0	0	0
Georgia	2,368	133	411	703	455	267	59	340
Augusta College	0	0	0	0	0	0	0	0
Clark Atlanta University	0	0	0	0	0	0	0	0
Emory University	0	0	0	0	0	0	0	0
Fort Valley State College	0	0	0	0	0	0	0	0
Georgia College	0	0	0	0	0	0	0	0
Georgia Institute of Technology	2,235	76	411	667	433	257	59	332
Georgia Southern University	0	0	0	0	0	0	0	0
Georgia State University	0	0	0	0	0	0	0	0
Institute of Paper Science & Technology	57	57	0	0	0	0	0	0
Medical College of Georgia	0	0	0	0	0	0	0	0
Mercer University	68	0	0	36	22	10	0	0
Morehouse School of Medicine	0	0	0	0	0	0	0	0
University of Georgia	8	0	0	0	0	0	0	8
Valdosta State College	0	0	0	0	0	0	0	0
West Georgia College	0	0	0	0	0	0	0	0
Maryland	1,890	112	234	882	79	288	67	228
Coppin State College	0	0	0	0	0	0	0	0
Frostburg State University	0	0	0	0	0	0	0	0
Hood College	0	0	0	0	0	0	0	0
Johns Hopkins University	169	36	22	53	0	24	0	34
Loyola College	274	0	0	274	0	0	0	0
Morgan State University	0	0	0	0	0	0	0	0
Towson State University	0	0	0	0	0	0	0	0
Unifomed Serv Univ of the Hlth Science	0	0	0	0	0	0	0	0
University of Baltimore	0	0	0	0	0	0	0	0
University of Maryland - Balt Prof Sch	0	0	0	0	0	0	0	0
University of Maryland - Baltimore Cnty	171	16	0	58	62	35	0	0
University of Maryland - College Park	1,276	60	212	497	17	229	67	194
University of Maryland Eastern Shore	0	0	0	0	0	0	0	0
Washington College	0	0	0	0	0	0	0	0
North Carolina	1,860	90	217	590	123	287	176	377
Appalachian State University	0	0	0	0	0	0	0	0
Duke University	274	0	54	84	0	61	0	65
East Carolina University	0	0	0	0	0	0	0	0
North Carolina A & T State University	175	0	10	72	28	49	0	16

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Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
North Carolina, continued								
North Carolina Central University	0	0	0	0	0	0	0	0
North Carolina State Univ at Raleigh	1,280	90	130	375	95	155	176	259
Univ of North Carolina at Chapel Hill	37	0	0	0	0	0	0	37
Univ of North Carolina at Charlotte	94	0	23	49	0	22	0	0
Univ of North Carolina at Greensboro	0	0	0	0	0	0	0	0
University of North Carolina/Wilmington	0	0	0	0	0	0	0	0
Wake Forest University	0	0	0	0	0	0	0	0
Western Carolina University	0	0	0	0	0	0	0	0
South Carolina	1,014	30	248	150	40	120	34	392
Clemson University	680	30	248	150	40	120	34	58
College of Charleston	0	0	0	0	0	0	0	0
Furman University	0	0	0	0	0	0	0	0
Medical University of South Carolina	0	0	0	0	0	0	0	0
University of South Carolina	334	0	0	0	0	0	0	334
Winthrop College	0	0	0	0	0	0	0	0
Virginia	3,028	125	290	655	659	370	112	817
College of William and Mary	6	0	0	0	0	0	0	6
Eastern Virginia Medical School	0	0	0	0	0	0	0	0
George Mason University	308	0	0	158	121	0	0	29
Hampton University	0	0	0	0	0	0	0	0
Hollins College	0	0	0	0	0	0	0	0
Institute of Textile Technology	30	0	0	0	0	0	0	30
James Madison University	0	0	0	0	0	0	0	0
Old Dominion University	368	0	54	53	0	113	0	148
Radford University	0	0	0	0	0	0	0	0
University of Richmond	0	0	0	0	0	0	0	0
University of Virginia	618	82	43	170	51	100	68	104
Virginia Commonwealth University	28	0	0	0	0	0	0	28
Virginia Polytechnic Inst and State Uni	1,670	43	193	274	487	157	44	472
Virginia State University	0	0	0	0	0	0	0	0
West Virginia	499	67	76	59	145	91	0	61
Marshall University	0	0	0	0	0	0	0	0
Univ of West Virginia Coll of Grad Stds	127	41	5	0	81	0	0	0
University of Charleston	0	0	0	0	0	0	0	0
West Virginia Institute of Technology	14	0	0	0	0	0	0	14
West Virginia Sch of Osteopathic Med	0	0	0	0	0	0	0	0
West Virginia University	358	26	71	59	64	91	0	47
East South Central	4,540	330	534	1,235	711	801	239	690
Alabama	1,624	104	117	488	254	374	140	147
Alabama A & M University	0	0	0	0	0	0	0	0
Alabama State University	0	0	0	0	0	0	0	0
Auburn University	536	78	67	96	59	102	60	74
Jacksonville State University	0	0	0	0	0	0	0	0
The University of Alabama	262	12	36	50	59	47	38	20
The University of Alabama at Birmingham	165	0	14	34	0	22	42	53
The University of Alabama in Huntsville	558	0	0	261	136	161	0	0
Troy State University at Montgomery	0	0	0	0	0	0	0	0
Tuskegee University	35	0	15	0	0	20	0	0
University of Montevallo	0	0	0	0	0	0	0	0
University of South Alabama	68	14	0	32	0	22	0	0
Kentucky	845	72	110	256	189	142	20	56
Eastern Kentucky University	0	0	0	0	0	0	0	0
Morehead State University	0	0	0	0	0	0	0	0
Murray State University	50	0	0	0	50	0	0	0
Spalding University	0	0	0	0	0	0	0	0
University of Kentucky	327	32	67	86	0	66	20	56
University of Louisville	468	40	43	170	139	76	0	0
Western Kentucky University	0	0	0	0	0	0	0	0
Mississippi	380	44	37	153	27	67	0	52
Jackson State University	0	0	0	0	0	0	0	0
Mississippi State University	291	31	12	123	27	46	0	52
Mississippi University for Women	0	0	0	0	0	0	0	0
University of Mississippi	89	13	25	30	0	21	0	0
University of Southern Mississippi	0	0	0	0	0	0	0	0
Tennessee	1,691	110	270	338	241	218	79	435
Austin Peay State University	0	0	0	0	0	0	0	0
East Tennessee State University	0	0	0	0	0	0	0	0
Fisk University	0	0	0	0	0	0	0	0

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Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
Tennessee, continued								
Meharry Medical College	0	0	0	0	0	0	0	0
Memphis State University	169	0	58	63	0	29	0	19
Middle Tennessee State University	0	0	0	0	0	0	0	0
Tennessee State University	46	0	0	0	0	0	0	46
Tennessee Technological University	149	11	8	38	11	40	0	41
University of Tennessee at Chattanooga	82	0	0	0	0	0	0	82
University of Tennessee at Knoxville	991	79	150	155	230	115	43	219
University of Tennessee, Memphis	0	0	0	0	0	0	0	0
Vanderbilt University	254	20	54	82	0	34	36	28
West South Central	10,072	831	1,758	3,087	997	1,496	134	1,769
Arkansas								
Arkansas State University	0	0	0	0	0	0	0	0
University of Arkansas	302	37	31	114	39	20	0	61
University of Arkansas - Med Sci Campus	0	0	0	0	0	0	0	0
University of Arkansas at Little Rock	0	0	0	0	0	0	0	0
University of Central Arkansas	0	0	0	0	0	0	0	0
Louisiana								
Louisiana State University	0	0	0	0	0	0	0	0
Louisiana State University System	659	77	132	210	34	96	0	110
Louisiana Tech University	154	0	0	0	0	0	0	154
Loyola University in New Orleans	0	0	0	0	0	0	0	0
McNeese State University	17	0	0	0	0	0	0	17
Nicholls State University	0	0	0	0	0	0	0	0
Northeast Louisiana University	0	0	0	0	0	0	0	0
Northwest State University	0	0	0	0	0	0	0	0
Southeastern Louisiana University	0	0	0	0	0	0	0	0
Southern University A & M College	0	0	0	0	0	0	0	0
Tulane University of Louisiana	127	28	24	13	0	26	0	36
University of Southwestern Louisiana	108	16	14	0	29	19	0	30
Xavier University	0	0	0	0	0	0	0	0
Oklahoma	1,459	135	332	327	206	148	0	311
East Central University	0	0	0	0	0	0	0	0
Northeastern State University	0	0	0	0	0	0	0	0
Oklahoma State University	568	51	113	137	90	130	0	47
Southwestern Oklahoma State University	0	0	0	0	0	0	0	0
University of Oklahoma	779	58	219	171	111	0	0	220
University of Tulsa	112	26	0	19	5	18	0	44
Texas	7,246	538	1,225	2,423	689	1,187	134	1,050
Abilene Christian University	0	0	0	0	0	0	0	0
Angelo State University	0	0	0	0	0	0	0	0
Baylor College of Dentistry	0	0	0	0	0	0	0	0
Baylor College of Medicine	0	0	0	0	0	0	0	0
Baylor University	0	0	0	0	0	0	0	0
Corpus Christi State University	0	0	0	0	0	0	0	0
East Texas State University	0	0	0	0	0	0	0	0
Incarinate Word College	0	0	0	0	0	0	0	0
Lamar University	154	24	40	18	45	27	0	0
Midwestern State University	0	0	0	0	0	0	0	0
Prairie View A & M University	12	0	0	0	0	0	0	12
Rice University	258	63	30	109	0	56	0	0
Sam Houston State University	0	0	0	0	0	0	0	0
Southern Methodist University	449	0	0	392	0	57	0	0
Southwest Texas State University	0	0	0	0	0	0	0	0
St Mary's University of San Antonio	39	0	0	0	0	0	0	39
Stephen F. Austin State University	0	0	0	0	0	0	0	0
Sul Ross State University	0	0	0	0	0	0	0	0
Tarleton State University	0	0	0	0	0	0	0	0
Texas A & I University	97	22	5	25	0	39	0	6
Texas A & M University	1,595	130	304	345	243	243	0	330
Texas Christian University	0	0	0	0	0	0	0	0
Texas College of Osteopathic Medicine	0	0	0	0	0	0	0	0
Texas Southern University	0	0	0	0	0	0	0	0
Texas Tech University	300	20	70	58	68	52	0	32
Texas Woman's University	0	0	0	0	0	0	0	0
The University of Texas - Pan American	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
Texas, continued								
Trinity University	0	0	0	0	0	0	0	0
Univ of Texas Hlth Sci Ctr San Antonio	0	0	0	0	0	0	0	0
Univ of Texas Hlth Sci Ctr at Houston	0	0	0	0	0	0	0	0
Univ of Texas MD Anderson Cancer Center	0	0	0	0	0	0	0	0
Univ of Texas Med Branch at Galveston	0	0	0	0	0	0	0	0
Univ of Texas SW Medical Ctr at Dallas	25	0	0	0	0	0	0	25
Univ of Texas at Arlington	853	0	97	386	72	170	27	101
Univ of Texas at Austin	1,848	142	413	531	0	305	86	371
Univ of Texas at Dallas	179	0	0	132	0	0	0	47
Univ of Texas at El Paso	289	0	57	79	81	51	21	0
University of Central Texas	0	0	0	0	0	0	0	0
University of Houston - Victoria	0	0	0	0	0	0	0	0
University of Houston at Clear Lake Cit	95	0	60	16	19	0	0	0
University of Houston-University Park	934	137	137	285	135	172	0	68
University of North Texas	26	0	0	0	26	0	0	0
University of Texas at San Antonio	74	0	12	47	0	15	0	0
University of Texas at Tyler	0	0	0	0	0	0	0	0
University of Texas of the Permian Basi	1	0	0	0	0	0	0	1
West Texas State University	18	0	0	0	0	0	0	18
Mountain	6,914	492	1,300	2,459	413	717	382	1,151
Arizona								
Arizona State University	1,341	130	247	499	170	155	0	140
Northern Arizona University	0	28	0	0	0	0	0	0
University of Arizona	759	28	86	319	72	14	61	179
Colorado	2,168	79	450	856	156	160	99	368
Colorado School of Mines	205	32	0	0	0	14	88	71
Colorado State University	392	13	196	63	24	63	0	33
National Technological University	387	0	0	252	132	0	3	0
University of Colorado	1,176	34	254	541	0	83	0	264
University of Denver	8	0	0	0	0	0	8	0
University of Northern Colorado	0	0	0	0	0	0	0	0
Idaho	406	43	54	88	0	78	31	112
Idaho State University	73	0	0	0	0	0	0	73
University of Idaho	333	43	54	88	0	78	31	39
Montana	150	17	34	17	12	12	10	48
Montana College Mineral Sci & Technolog	70	0	12	0	0	0	10	48
Montana State University	80	17	22	17	12	12	0	0
University of Montana	0	0	0	0	0	0	0	0
Nevada	277	0	94	71	0	25	23	64
University of Nevada at Las Vegas	75	0	39	36	0	0	0	0
University of Nevada at Reno	202	0	55	35	0	25	23	64
New Mexico	788	123	122	364	0	121	27	31
Eastern New Mexico University	0	0	0	0	0	0	0	0
New Mexico Highlands University	0	0	0	0	0	0	0	0
New Mexico Institute of Mining and Tech	58	0	0	0	0	0	27	31
New Mexico State University	265	35	47	143	0	40	0	0
University of New Mexico	465	88	75	221	0	81	0	0
Utah	899	59	184	205	3	131	131	186
Brigham Young University	145	19	27	38	3	48	0	10
University of Utah	445	40	26	91	0	49	131	108
Utah State University	309	0	131	76	0	34	0	68
Wyoming	126	13	29	40	0	21	0	23
University of Wyoming	126	13	29	40	0	21	0	23
Pacific	18,220	640	2,625	6,723	1,534	2,746	721	3,231
Alaska								
Alaska	200	0	22	9	22	13	0	134
University of Alaska Southeast	0	0	0	0	0	0	0	0
University of Alaska at Anchorage	98	0	0	0	0	0	0	98
University of Alaska at Fairbanks	102	0	22	9	22	13	0	36
California	15,547	483	2,160	5,971	1,409	2,390	624	2,510
Azusa Pacific University	0	0	0	0	0	0	0	0
Biola University	0	0	0	0	0	0	0	0
Calif Poly State Univ at San Luis Obisp	118	0	35	33	0	0	0	50

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
California, continued								
Calif Sch of Prof Psych - Fresno	0	0	0	0	0	0	0	0
Calif Sch of Prof Psych - Los Angeles	0	0	0	0	0	0	0	0
Calif Sch of Prof Psych - San Diego	0	0	0	0	0	0	0	0
Calif Sch of Prof Psych-Berkeley/Alamed	0	0	0	0	0	0	0	0
Calif State Polytechnic Univ at Pomona	157	0	45	0	0	0	0	112
Calif State Univ at Dominguez Hills	65	0	0	0	0	0	0	65
Calif State Univ at Fullerton	279	0	27	176	0	73	0	3
Calif State Univ at Hayward	0	0	0	0	0	0	0	0
Calif State Univ at Long Beach	710	0	144	261	0	177	0	128
Calif State Univ at Los Angeles	144	0	26	86	0	22	0	10
Calif State Univ at San Bernardino	0	0	0	0	0	0	0	0
Calif State Univ of Stanislaus	0	0	0	0	0	0	0	0
Calif State University at Chico	12	0	0	12	0	0	0	0
Calif State University at Fresno	13	0	13	0	0	0	0	0
Calif State University at Northridge	605	0	69	259	78	109	9	81
Calif State University at Sacramento	221	0	58	77	0	39	0	47
California Institute of Integral Studie	0	0	0	0	0	0	0	0
California Institute of Technology	419	54	39	115	0	73	18	120
California State Univ - Bakersfield	0	0	0	0	0	0	0	0
Chapman College	0	0	0	0	0	0	0	0
Charles R. Drew Univ of Medicine & Sci	0	0	0	0	0	0	0	0
Claremont Univ Center & Graduate School	0	0	0	0	0	0	0	0
Dominican College of San Rafael	0	0	0	0	0	0	0	0
Fuller Theological Seminary	0	0	0	0	0	0	0	0
Golden Gate University	0	0	0	0	0	0	0	0
Harvey Mudd College	7	0	0	0	0	0	0	7
Humboldt State University	44	0	44	0	0	0	0	0
John F. Kennedy University	0	0	0	0	0	0	0	0
Loma Linda University	0	0	0	0	0	0	0	0
Loyola Marymount University	77	0	25	34	0	18	0	0
National University	154	0	0	154	0	0	0	0
Northrop University	185	0	17	81	0	44	0	43
Occidental College	0	0	0	0	0	0	0	0
Pacific Grad School of Prof Psych	0	0	0	0	0	0	0	0
Pacific States University	20	0	0	20	0	0	0	0
Pepperdine University	0	0	0	0	0	0	0	0
Rand Graduate School of Policy Studies	0	0	0	0	0	0	0	0
San Diego State University	294	0	42	133	0	81	0	38
San Francisco State University	0	0	0	0	0	0	0	0
San Jose State University	729	19	86	325	51	94	51	103
Santa Clara University	770	0	9	500	154	80	0	27
Sonoma State University	0	0	0	0	0	0	0	0
Stanford University	2,277	53	233	695	114	498	158	526
The Fielding Institute	0	0	0	0	0	0	0	0
The Wright Institute	0	0	0	0	0	0	0	0
US International University	0	0	0	0	0	0	0	0
US Naval Postgraduate School	747	0	0	274	121	142	0	210
University of Calif at Berkeley	1,655	152	535	358	89	279	147	95
University of Calif at Davis	597	30	125	127	0	181	0	134
University of Calif at Irvine	305	0	0	0	0	0	0	305
University of Calif at Los Angeles	1,029	50	339	332	0	212	96	0
University of Calif at Riverside	0	0	0	0	0	0	0	0
University of Calif at San Diego	352	15	0	152	26	51	15	93
University of Calif at San Francisco	27	0	0	0	0	0	0	27
University of Calif at Santa Barbara	450	45	0	242	0	92	71	0
University of La Verne	39	0	0	39	0	0	0	0
University of Redlands	0	0	0	0	0	0	0	0
University of San Diego	0	0	0	0	0	0	0	0
University of San Francisco	87	0	87	0	0	0	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-3. Graduate engineering students in all institutions
by geographic division, State, institution,
and major field of engineering: 1990

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Division, State, and institution	Total, engi- neering	Chemical	Civil	Elec- trical	Indus- trial	Mechan- ical	Metallur- gical/ materials	All other engi- neering
California, continued								
University of Southern California	2,745	65	162	1,438	672	111	59	238
University of the Pacific	4	0	0	4	0	0	0	0
West Coast University	210	0	0	44	104	14	0	48
Hawaii	210	0	27	86	0	36	0	61
University of Hawaii at Manoa	210	0	27	86	0	36	0	61
Oregon	760	62	122	171	85	105	33	182
Oregon Grad Inst of Science & Technolog	63	0	0	0	0	0	28	35
Oregon Health Sciences University	0	0	0	0	0	0	0	0
Oregon State University	437	62	97	87	35	88	5	63
Pacific University	0	0	0	0	0	0	0	0
Portland State University	249	0	25	84	50	17	0	73
Southern Oregon State College	0	0	0	0	0	0	0	0
University of Oregon	0	0	0	0	0	0	0	0
University of Portland	11	0	0	0	0	0	0	11
Washington	1,503	95	294	486	18	202	64	344
Central Washington University	0	0	0	0	0	0	0	0
Eastern Washington University	0	0	0	0	0	0	0	0
Gonzaga University	10	0	0	7	0	3	0	0
Pacific Lutheran University	0	0	0	0	0	0	0	0
Saint Martin's College	18	0	0	0	18	0	0	0
Seattle University	114	0	0	114	0	0	0	0
University of Washington	1,099	70	234	291	0	147	48	309
Walla Walla College	0	0	0	0	0	0	0	0
Washington State University	262	25	60	74	0	52	16	35
Western Washington University	0	0	0	0	0	0	0	0
Whitworth College	0	0	0	0	0	0	0	0
Outlying Areas	109	15	27	26	29	12	0	0
Guam	0	0	0	0	0	0	0	0
University of Guam	0	0	0	0	0	0	0	0
Puerto Rico	109	15	27	26	29	12	0	0
Caribbean Center for Advanced Studies	0	0	0	0	0	0	0	0
Catholic University of Puerto Rico	0	0	0	0	0	0	0	0
Ponce School of Medicine	0	0	0	0	0	0	0	0
University of Puerto Rico	109	15	27	26	29	12	0	0
University of Puerto Rico - Rio Piedras	0	0	0	0	0	0	0	0
University of Puerto Rico Med Sci Campu	0	0	0	0	0	0	0	0

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students
and Postdoctorates in Science and Engineering

Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Total, all institutions	458,943	15,473	1,270	19,195	12,569	285,997	17,675	106,764
New England	34,324	524	60	1,186	438	21,250	2,469	8,397
Connecticut	7,443	131	15	230	89	5,254	301	1,423
Central Connecticut State University	33	3	0	6	0	22	2	0
Connecticut College	19	0	0	0	0	18	0	1
Quinnipiac College	190	9	0	4	1	163	6	1
Southern Connecticut State University	183	6	0	1	0	129	4	1
St. Joseph College	160	6	0	0	0	145	0	1
The Hartford Graduate Center	867	7	1	28	7	688	114	22
Trinity College	34	1	0	2	0	31	0	0
University of Bridgeport	326	3	0	13	9	233	0	68
University of Connecticut	2,510	28	4	67	19	1,679	30	683
University of Hartford	267	3	0	4	4	191	60	5
University of New Haven	780	21	0	22	8	595	21	113
Wesleyan University	121	1	0	7	2	69	0	41
Western Connecticut State University	19	0	0	0	0	19	0	0
Yale University	1,934	43	10	75	26	1,270	23	487
Maine	689	3	0	6	2	495	26	157
University of Maine	660	3	0	6	2	466	26	157
University of New England	29	0	0	0	0	29	0	0
Massachusetts	22,179	362	39	873	296	12,690	2,018	5,901
American International College	170	6	0	0	3	160	0	1
Anna Maria College	139	0	0	0	0	139	0	0
Assumption College	202	3	0	0	5	192	0	2
Boston College	623	10	0	27	6	481	4	95
Boston University	2,346	37	4	78	42	1,189	346	650
Brandeis University	416	2	0	9	3	217	0	185
Bridgewater State College	34	0	0	0	1	32	0	1
Clark University	253	11	2	0	7	145	1	83
Emerson College	58	0	0	0	0	53	0	4
Framingham State College	18	0	0	0	0	18	0	0
Harvard University	3,231	109	15	125	59	1,796	228	899
MGH Institute of Health Professions	181	1	0	0	1	173	0	6
Mass College of Pharmacy/Allied Health	41	2	0	1	2	8	0	28
Massachusetts Institute of Technology	4,245	72	7	318	70	2,375	30	1,373
Mount Holyoke College	111	2	0	0	0	6	0	3
Northeastern University	2,414	13	2	30	0	652	1,042	670
Salem State College	95	0	0	0	0	91	0	2
Smith College	5	0	0	0	0	4	0	1
Southeastern Massachusetts University	199	0	1	4	0	124	0	70
Tufts University	1,037	9	0	69	10	733	7	209
University of Lowell	2,070	28	2	134	21	1,431	2	452
University of Massachusetts	3,251	45	6	53	56	1,874	239	978
Western New England College	229	8	0	4	3	209	0	5
Williams College	23	0	0	0	0	0	0	23
Woods Hole Oceanographic Institution	0	0	0	0	0	0	0	0
Worcester Polytechnic Institute	878	0	0	19	2	584	109	161
Worcester State College	10	0	0	0	0	0	10	0
New Hampshire	1,175	7	3	26	6	839	88	206
Dartmouth College	339	2	2	12	4	221	0	98
Rivier College	153	5	0	7	1	93	39	8
University of New Hampshire	683	0	1	7	1	525	49	100
Rhode Island	2,162	16	2	42	33	1,420	36	613
Brown University	769	9	1	24	18	401	2	314
Providence College	0	0	0	0	0	0	0	0
Rhode Island College	83	0	0	0	0	53	30	0
University of Rhode Island	1,310	7	1	18	15	966	4	299
Vermont	676	5	1	9	12	552	0	97
Goddard College	49	0	0	0	0	49	0	0
Marlboro College	0	0	0	0	0	0	0	0
Middlebury College	2	0	0	0	0	0	0	0
University of Vermont & St Agric Colleg	625	5	1	9	12	501	0	97
Middle Atlantic	80,827	2,913	109	3,801	1,689	47,929	5,804	18,582
New Jersey	11,674	335	16	1,036	234	6,486	857	2,710
Drew University	13	0	0	0	0	13	0	0
Fairleigh Dickinson University	912	28	4	43	21	693	49	74
Kean College of New Jersey	103	5	0	0	3	90	5	0
Morrmouth College(NJ)	275	6	1	97	5	155	11	0
Montclair State College	414	7	0	0	1	250	137	19
New Jersey Institute of Technology	2,283	74	0	543	63	717	111	775

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
New Jersey, continued								
Princeton University	1,335	18	0	55	21	746	4	491
Rutgers the State University	4,249	161	11	146	83	2,704	61	1,083
Seton Hall University	278	5	0	3	2	105	159	4
Stevens Institute of Technology	1,333	19	0	126	27	744	243	174
Trenton State College	35	0	0	2	0	29	4	0
Univ of Med and Dent of New Jersey	284	3	0	16	2	111	62	90
William Paterson College	160	9	0	5	6	129	11	0
New York	47,648	2,016	62	1,971	1,227	26,713	4,748	10,911
Adelphi University	947	30	0	26	17	815	34	25
Albany Medical Center Graduate School	86	0	0	2	1	77	0	6
Alfred University	139	2	0	0	1	100	0	36
CUNY Bernard Baruch College	451	20	0	0	17	145	263	6
CUNY Brooklyn College	834	32	0	20	10	104	419	249
CUNY City College	854	103	0	101	72	114	89	375
CUNY College of Staten Island St George	82	0	0	7	2	38	3	32
CUNY Graduate School and Univ Center	2,068	85	0	31	66	1,122	19	745
CUNY Herbert W. Lehman College	78	12	0	10	12	25	6	13
CUNY Hunter College	809	108	2	52	62	454	73	58
CUNY John Jay College of Crim Justice	459	125	1	7	53	271	0	2
CUNY Mt. Sinai Sch of Medicine	146	2	0	5	3	93	0	43
CUNY Queens College	474	10	0	14	22	156	237	35
Clarkson University	312	0	1	1	1	135	0	174
College of New Rochelle	304	46	0	0	26	227	4	1
College of St Rose	102	0	0	0	0	71	31	0
Columbia University Main Division	2,942	69	2	123	56	1,421	210	1,061
Columbia University Teachers College	1,928	181	3	71	101	1,279	89	204
Cooper Union	53	0	0	14	3	36	0	0
Cornell University	3,408	65	10	149	62	1,777	0	1,345
Fordham University	566	18	0	7	33	376	57	75
Hofstra University	549	15	0	12	4	440	60	18
Iona College	544	21	1	8	6	247	260	1
Ithaca College	19	0	0	0	0	19	0	0
Long Island University	1,503	216	0	42	47	975	95	128
Manhattan College	325	9	1	28	9	211	7	60
Marist College	254	9	0	32	5	206	2	0
New School for Social Research	984	49	1	30	51	616	65	172
New York Institute of Technology	939	53	2	59	26	386	56	357
New York Medical College	257	17	0	12	6	153	33	36
New York University	3,161	189	1	164	87	1,616	502	602
Niagara University	15	0	0	0	0	11	0	4
Pace University	1,354	87	2	101	59	1,093	0	12
Polytechnic University	1,974	43	7	127	31	863	695	208
Pratt Institute	17	3	0	1	2	3	5	3
Rensselaer Polytechnic Institute	1,790	13	0	74	22	1,172	15	494
Rochester Institute of Technology	866	30	2	47	14	595	98	80
Rockefeller University	128	2	0	8	1	66	7	44
Russell Sage College	627	7	2	0	9	482	116	11
SUNY - Albany	1,264	54	1	12	26	703	103	363
SUNY - Binghamton	1,182	38	1	31	19	30	763	300
SUNY - Buffalo	3,316	56	10	153	43	1,849	198	1,007
SUNY - Coll of Env Science and Forestry	527	3	2	3	6	365	0	148
SUNY - Health Sci Ctr at Brooklyn	108	6	0	13	1	26	0	62
SUNY - Health Sci Ctr at Syracuse	51	2	0	6	0	28	0	15
SUNY - Stony Brook	2,305	47	6	112	42	1,221	41	836
SUNY College at Brockport	562	18	0	4	6	526	0	8
SUNY College at Buffalo	89	1	0	1	0	73	14	0
SUNY College at Cortland	14	0	0	0	0	14	0	0
SUNY College at Fredonia	21	0	0	0	0	20	0	1
SUNY College at Geneseo	46	1	0	0	3	42	0	0
SUNY College at New Paltz	227	8	1	29	3	180	2	4
SUNY College at Oneonta	1	0	0	0	0	1	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

Page 3 of 11

Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
New York, continued								
SUNY College at Oswego	220	8	0	0	2	206	0	4
SUNY College at Plattsburgh	38	2	0	1	0	9	25	0
SUNY College at Potsdam	5	0	0	0	0	4	0	0
SUNY College of Technology at Utica/Rom	49	1	0	1	0	39	0	8
SUNY State College of Optometry	28	0	0	2	1	14	0	12
Sarah Lawrence College	44	2	0	2	1	36	0	3
St Bonaventure University	15	0	0	0	1	13	0	1
St John's University	707	19	0	30	4	519	6	129
Syracuse University	2,155	48	0	126	20	1,208	34	719
Union College(NY)	198	4	0	2	2	180	0	10
University of Rochester	1,411	13	1	47	13	857	0	480
Vassar College	3	0	0	0	0	1	2	0
Wagner College	124	2	0	1	2	100	0	19
Yeshiva University	590	12	0	11	33	459	9	66
Pennsylvania	21,505	562	31	794	228	14,730	199	4,961
Bloomsburg University of Pennsylvania	89	0	1	1	0	86	0	1
Bryn Mawr College	114	1	0	0	0	103	2	8
Bucknell University	58	0	0	0	0	46	0	12
California University of Pennsylvania	142	7	0	1	0	118	0	16
Carnegie-Mellon University	1,657	41	1	50	17	1,042	0	506
Clarion University of Pennsylvania	83	1	0	0	0	79	0	3
Drexel University	1,410	26	3	148	14	854	45	320
Duquesne University	380	9	1	4	5	319	0	42
East Stroudsburg Univ of Pennsylvania	99	2	0	2	1	66	0	28
Edinboro University of Pennsylvania	242	8	0	0	2	226	0	6
Gannon University	99	0	0	1	0	98	0	0
Hahnemann University	506	14	0	39	10	398	18	27
Indiana University of Pennsylvania	123	11	1	3	2	88	0	18
Kutztown University of Pennsylvania	131	2	0	0	1	128	0	0
Lehigh University	764	8	0	14	7	466	1	268
Mansfield University of Pennsylvania	12	0	0	0	0	8	2	2
Marywood College	130	0	0	0	0	127	0	0
Millersville University of Pennsylvania	97	1	0	0	2	87	1	6
Pennsylvania State University	4,700	100	16	201	47	3,037	8	1,291
Phila College of Osteopathic Medicine	12	0	0	0	0	12	0	0
Philadelphia Coll of Pharmacy and Sci	61	2	0	2	0	43	0	14
Shippensburg University of Pennsylvania	351	21	1	7	4	297	0	21
Slippery Rock University of Pennsylvania	167	2	0	4	0	161	0	0
St Joseph's University	428	24	0	13	4	324	2	61
Swarthmore College	0	0	0	0	0	0	0	0
Temple University	1,505	86	2	74	36	904	12	391
The Medical College of Pennsylvania	100	2	0	3	0	77	0	18
Thomas Jefferson University	158	3	2	2	0	133	0	18
University of Pennsylvania	2,526	47	0	99	34	1,435	12	899
University of Pittsburgh	3,852	104	1	98	27	2,778	22	822
University of Scranton	127	1	0	0	10	105	2	9
Villanova University	844	19	2	16	2	656	67	82
West Chester University of Pennsylvania	355	19	0	0	2	288	5	41
Widener University	150	1	0	7	1	112	0	29
Wilkes University	33	0	0	2	0	29	0	2
East North Central	81,426	2,737	156	2,779	1,415	51,094	1,912	21,333
Illinois	24,381	1,150	31	1,368	509	14,910	298	6,115
Bradley University	249	3	0	4	0	103	1	138
Chicago Coll of Osteo Medicine	0	0	0	0	0	0	0	0
Chicago School of Prof Psych	158	3	0	5	6	140	0	4
Chicago State University	151	107	0	1	4	25	5	9
De Paul University	1,444	120	0	248	47	921	0	108
Eastern Illinois University	156	10	0	2	3	122	0	19
Forest Institute of Prof Psych	256	9	2	3	6	233	0	3
Governors State University	686	172	1	3	21	473	10	6
Illinois Institute of Technology	1,776	67	1	126	41	825	98	618
Illinois State University	523	19	0	15	7	410	0	72
Loyola University of Chicago	730	18	1	29	16	561	4	101

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Illinois, continued								
Northeastern Illinois University	969	88	0	100	60	690	3	28
Northern Illinois University	1,116	20	1	17	54	737	7	280
Northwestern University	1,920	38	2	99	27	1,121	4	629
Roosevelt University	330	78	1	10	8	168	11	54
Rush University	471	15	0	20	5	400	8	23
Sangamon State University	700	36	2	17	10	599	0	41
Southern Illinois Univ at Carbondale	1,565	59	2	37	7	972	0	476
Southern Illinois Univ at Edwardsville	645	42	0	18	9	509	1	69
University of Chicago	2,016	38	0	61	50	1,194	6	668
University of Health Sciences (Chicago)	3,119	112	6	220	68	1,673	82	959
University of Illinois at Chicago	3,121	85	8	319	61	2,118	47	1,656
University of Illinois at Urbana	4,894	8	0	6	3	233	2	134
Western Illinois University	386	8	0	6	3	233	2	134
Indiana	9,769	202	23	181	147	6,319	176	2,721
Ball State University	421	5	0	3	5	302	1	105
Butler University	34	0	0	0	0	13	21	0
Indiana State University	298	9	0	6	2	190	2	89
Indiana University	3,914	107	16	60	61	2,955	18	697
Indiana Wesleyan University	20	1	0	0	0	19	0	0
Purdue University	3,915	66	6	95	57	2,163	13	1,515
Rose-Hulman Institute of Technology	135	0	0	0	0	8	113	14
Saint Francis College	55	1	0	0	2	52	0	0
University of Evansville	67	1	1	2	0	59	3	1
University of Notre Dame	807	7	0	15	20	462	3	300
Valparaiso University	103	5	0	0	0	96	2	0
Michigan	16,570	665	53	539	404	9,601	433	4,875
Andrews University	299	35	1	10	10	212	0	31
Central Michigan University	298	8	1	5	2	249	4	29
Eastern Michigan University	990	44	1	21	7	617	52	248
Grand Valley State University	186	9	0	0	0	169	2	6
Michigan State University	2,993	76	8	69	101	1,491	36	1,212
Michigan Technological University	464	1	0	3	2	260	0	198
Northern Michigan University	190	1	8	1	1	172	1	6
Oakland University	668	23	0	101	12	475	16	41
University of Detroit	564	55	0	30	6	304	6	163
University of Michigan	5,284	173	21	149	108	3,091	146	1,596
Wayne State University	3,155	177	10	138	25	1,620	154	1,031
Western Michigan University	1,479	63	3	12	130	941	16	314
Ohio	20,924	591	20	470	223	13,490	952	5,178
Air Force Institute of Technology	653	15	0	0	2	495	107	34
Antioch University	1,146	16	1	6	18	1,091	0	14
Bowling Green State University	581	43	0	7	17	374	0	140
Case Western Reserve University	1,803	30	3	56	10	1,039	83	582
Cleveland State University	1,099	58	1	71	8	778	110	73
John Carroll University	64	1	0	2	0	53	0	8
Kent State University	1,029	26	1	4	4	791	3	200
Medical College of Ohio at Toledo	292	1	0	1	2	230	0	58
Miami University	468	9	1	12	3	392	0	51
NE Ohio Univ Med School	0	0	0	0	0	0	0	0
Ohio State University	5,188	142	3	102	70	2,983	59	1,829
Ohio University	1,004	13	2	4	4	511	0	470
Union Institute	501	16	3	5	19	415	11	32
University of Akron	1,593	72	2	56	6	1,064	0	393
University of Cincinnati	2,576	79	4	46	26	1,613	27	785
University of Dayton	871	6	1	25	10	293	495	41
University of Toledo	700	15	1	24	6	303	52	300
Wright State University	993	42	1	46	16	752	5	131
Xavier University	194	5	0	1	2	186	0	4
Youngstown State University	169	5	0	2	2	127	0	33
Wisconsin	9,782	129	29	221	132	6,774	53	2,444
Marquette University	815	5	0	11	9	540	0	250
Medical College of Wisconsin	91	1	0	13	1	56	2	18
Milwaukee School of Engineering	316	6	0	7	2	301	0	0
University of Wisconsin - Eau Claire	130	4	0	0	0	125	0	1

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black Hispanic	American Indian/ Alaskan Native	Asian/ Pacific Islander	Hispanic	White non- Hispanic	Other or unknown	
Wisconsin, continued								
University of Wisconsin - Green Bay	37	0	0	2	0	32	0	3
University of Wisconsin - La Crosse	95	0	0	1	0	94	0	0
University of Wisconsin - Madison	5,746	53	17	150	81	3,619	2	1,824
University of Wisconsin - Milwaukee	1,747	47	8	34	35	1,316	0	307
University of Wisconsin - Oshkosh	293	9	3	0	2	269	0	10
University of Wisconsin - Platteville	24	0	0	0	0	19	0	5
University of Wisconsin - River Falls	48	1	0	0	0	46	1	0
University of Wisconsin - Stevens Point	104	0	0	0	1	61	41	1
University of Wisconsin - Stout	272	2	1	2	1	241	0	25
University of Wisconsin - Whitewater	64	1	0	1	0	55	7	0
West North Central	29,625	451	72	842	288	19,080	927	7,965
Iowa	5,516	75	1	56	35	2,941	245	2,163
Drake University	144	6	0	0	2	136	0	0
Iowa State University of Sci & Tech	2,755	32	1	13	11	1,233	238	1,227
Loras College	22	0	0	0	0	22	0	0
Maharishi International University	77	2	0	0	0	39	0	36
Teikyo Marycrest College	47	0	0	1	0	31	0	15
Univ. of Osteopathic Med & Health Sci	68	1	0	0	0	67	0	0
University of Iowa	2,301	26	0	42	22	1,322	6	883
University of Northern Iowa	102	8	0	0	0	91	1	2
Kansas	5,325	73	14	104	59	3,382	269	1,424
Emporia State University - Kansas	136	0	0	0	0	112	0	24
Fort Hays State University	77	2	0	0	1	74	0	0
Kansas State University	1,532	26	1	22	20	840	4	619
Pittsburg State University	320	7	0	7	1	246	11	48
University of Kansas	2,257	19	5	32	20	1,380	254	547
Washburn University of Topeka	31	0	0	0	0	31	0	0
Wichita State University	972	19	8	43	17	699	0	186
Minnesota	6,979	54	13	234	67	4,641	268	1,702
Bemidji State University	22	0	0	0	0	19	1	2
Mankato State University	343	7	3	4	2	223	0	104
Mayo Graduate School	98	0	0	1	0	76	0	21
Moorhead State University	239	0	0	0	0	172	0	67
St Mary's College of Minnesota	597	8	3	3	2	581	0	0
St. Cloud State University	70	0	0	0	1	66	0	3
University of Minnesota	5,610	39	7	226	62	3,504	267	1,505
Missouri	7,405	180	27	250	90	5,100	106	1,652
Central Missouri State University	307	20	0	3	2	253	0	29
Kirkville College of Osteopathic Med	1	0	0	0	0	1	0	0
Lincoln University	27	7	1	0	2	14	0	3
Northeast Missouri State University	30	0	0	0	0	27	0	3
Northwest Missouri State University	71	1	0	3	1	66	0	0
Southeast Missouri State University	43	0	0	0	0	42	0	1
Southwest Missouri State University	198	1	0	2	3	167	17	8
St. Louis University	800	29	0	29	7	675	0	60
Univ of Health Sciences (Kansas City)	0	0	0	0	0	0	0	0
University of Missouri - Columbia	1,983	52	11	75	27	1,055	17	746
University of Missouri - Kansas City	812	22	11	22	10	598	26	123
University of Missouri - Rolla	1,224	4	2	59	21	809	25	304
University of Missouri - St Louis	316	17	1	12	11	240	2	33
Washington University	1,593	27	1	45	6	1,153	19	342
Nebraska	2,519	51	3	88	29	1,772	21	555
Creighton University	130	3	0	1	0	118	0	8
Kearney State College	57	0	1	0	0	55	0	1
University of Nebraska - Lincoln	1,550	38	2	71	27	910	11	491
University of Nebraska - Omaha	505	9	0	10	1	466	10	9

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Nebraska, continued								
University of Nebraska Medical Center	277	1	0	6	1	223	0	46
North Dakota								
North Dakota State University	560	6	1	28	6	324	10	185
University of North Dakota	326	2	3	9	0	264	5	43
South Dakota								
South Dakota School of Mines and Tech	242	2	0	53	0	81	0	106
South Dakota State University	493	2	8	14	1	354	0	114
University of South Dakota	260	6	2	6	1	221	3	21
South Atlantic								
	68,623	4,132	146	2,200	1,460	45,106	1,236	14,343
Delaware								
Delaware State College	21	1	0	0	0	19	0	1
University of Delaware	1,357	61	1	18	8	862	2	405
District of Columbia								
	8,508	801	16	318	165	4,615	563	2,030
Catholic University of America	940	51	0	94	19	632	1	143
Gallaudet University	32	1	0	0	0	31	0	0
George Washington University	4,426	180	14	131	80	2,517	488	1,016
Georgetown University	703	4	0	31	20	462	3	183
Howard University	781	444	0	29	1	5	1	301
The American University	1,559	89	2	33	45	965	38	387
University of the District of Columbia	67	32	0	0	0	3	32	0
Florida								
	13,560	668	43	317	750	8,612	306	2,864
Florida A & M University	153	109	0	2	3	26	3	10
Florida Atlantic University	742	13	1	9	24	429	0	266
Florida Institute of Technology	894	12	1	16	29	582	0	254
Florida International University	772	98	1	23	209	317	0	124
Florida State University	1,483	74	8	30	31	989	5	346
Jacksonville University	31	2	0	4	70	25	0	0
Nova University	923	29	4	24	59	790	1	132
University of Central Florida	1,216	47	1	53	98	908	16	1,090
University of Florida	3,588	120	12	88	98	2,165	13	1,090
University of Miami	1,213	47	2	22	129	612	26	391
University of South Florida	2,158	94	4	32	89	1,432	2	246
University of West Florida	387	23	2	14	9	337	2	0
Georgia								
	8,169	762	5	226	153	5,197	49	1,777
Augusta College	45	5	0	2	1	37	0	0
Clark Atlanta University	279	170	0	0	1	3	0	105
Emory University	1,013	61	0	26	11	752	0	163
Fort Valley State College	80	55	0	0	0	22	3	0
Georgia College	251	31	0	4	6	207	0	3
Georgia Institute of Technology	2,972	146	2	108	75	1,732	0	909
Georgia Southern University	73	9	0	1	2	61	0	0
Georgia State University	1,111	150	0	45	24	799	30	63
Institute of Paper Science & Technology	57	1	0	1	0	53	0	2
Medical College of Georgia	202	20	0	2	12	139	0	29
Mercer University	88	6	0	1	1	76	0	4
Morehouse School of Medicine	0	0	0	0	0	0	0	0
University of Georgia	1,653	61	3	36	17	1,029	16	491
Valdosta State College	225	40	0	0	0	181	0	4
West Georgia College	120	7	0	0	3	106	0	4
Maryland								
	9,827	567	29	432	125	6,234	93	2,347
Coppin State College	35	22	0	1	0	4	5	3
Frostburg State University	54	4	0	0	5	45	0	0
Hood College	344	6	0	19	7	309	0	3
Johns Hopkins University	1,756	47	20	141	19	1,063	0	466
Loyola College	788	41	0	12	0	681	34	11
Morgan State University	69	45	0	0	0	8	1	15
Towson State University	276	46	0	5	3	411	1	33
Uniformed Serv Univ of the Hlth Science	123	4	2	10	1	72	1	33
University of Baltimore	246	79	0	3	5	154	3	2
University of Maryland - Balt Prof Sch	965	52	1	43	14	728	1	126
University of Maryland - Baltimore Cnty	913	49	1	24	8	584	1	246
University of Maryland - College Park	3,931	162	5	174	54	2,093	45	1,398
University of Maryland Eastern Shore	82	10	0	0	0	37	1	34
Washington College	45	0	0	0	0	45	0	0
North Carolina								
	9,860	525	33	289	79	7,099	99	1,736
Appalachian State University	194	5	1	2	2	179	0	5
Duke University	1,388	26	2	42	15	1,040	7	256
East Carolina University	363	15	0	5	3	317	1	22
North Carolina A & T State University	240	100	0	33	2	30	8	67

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Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
North Carolina, continued								
North Carolina Central University	74	64	1	1	0	8	0	0
North Carolina State Univ at Raleigh	3,045	124	6	96	22	1,932	35	830
Univ of North Carolina at Chapel Hill	3,066	129	16	85	31	2,363	16	426
Univ of North Carolina at Charlotte	552	29	3	23	1	410	0	86
Univ of North Carolina at Greensboro	530	26	0	0	0	472	32	0
University of North Carolina/Wilmington	64	1	1	2	2	58	0	0
Wake Forest University	219	5	3	0	0	178	0	33
Western Carolina University	125	1	0	0	1	112	0	11
South Carolina								
Clemson University	1,500	29	2	14	7	934	21	493
College of Charleston	84	4	1	3	1	75	0	0
Furman University	4	0	0	0	0	4	0	0
Medical University of South Carolina	168	2	0	32	0	111	0	23
University of South Carolina	1,874	104	3	34	33	1,263	6	429
Winthrop College	49	1	0	0	0	47	0	1
Virginia								
College of William and Mary	334	9	0	3	5	255	0	62
Eastern Virginia Medical School	111	16	0	3	1	68	0	23
George Mason University	2,275	76	7	153	34	1,744	0	261
Hampton University	127	66	0	4	1	31	0	25
Hollins College	10	0	0	0	0	10	0	0
Institute of Textile Technology	30	0	0	0	0	30	0	0
James Madison University	155	9	0	0	1	137	0	8
Old Dominion University	1,195	68	1	39	18	849	7	213
Radford University	209	11	0	2	3	190	1	2
University of Richmond	23	1	0	0	0	21	0	1
University of Virginia	1,906	63	0	76	21	1,512	8	226
Virginia Commonwealth University	1,712	132	0	53	13	1,348	37	129
Virginia Polytechnic Inst and State Uni	3,275	62	4	144	32	2,113	41	879
Virginia State University	56	42	0	2	0	11	0	1
West Virginia								
Marshall University	237	9	0	3	0	208	0	17
Univ of West Virginia Coll of Grad Stds	444	13	1	14	5	410	1	0
University of Charleston	7	0	0	0	0	6	0	1
West Virginia Institute of Technology	14	0	0	0	0	0	0	14
West Virginia Sch of Osteopathic Med	0	0	0	0	0	0	0	0
West Virginia University	1,522	30	0	21	5	1,091	0	375
East South Central								
Alabama	6,334	432	5	159	48	4,132	14	1,544
Alabama A & M University	240	87	0	10	2	23	0	118
Alabama State University	13	13	0	0	0	0	0	0
Auburn University	1,699	71	1	26	14	1,047	3	537
Jacksonville State University	180	25	0	6	3	146	0	0
The University of Alabama	807	28	1	5	3	450	3	317
The University of Alabama at Birmingham	1,499	92	0	42	16	1,056	2	291
The University of Alabama in Huntsville	1,099	17	1	44	6	891	3	137
Troy State University at Montgomery	162	3	0	2	1	152	3	1
Tuskegee University	116	41	0	18	0	1	0	56
University of Montevallo	25	0	0	0	0	25	0	0
University of South Alabama	494	55	2	6	3	341	0	87
Kentucky								
Eastern Kentucky University	175	6	0	0	3	150	2	14
Morehead State University	59	0	0	0	0	56	3	0
Murray State University	318	16	1	16	0	285	0	0
Spalding University	149	2	0	0	0	147	0	0
University of Kentucky	1,906	30	14	83	10	1,230	38	501
University of Louisville	1,115	41	5	70	4	865	1	129
Western Kentucky University	194	13	0	9	4	158	0	10
Mississippi								
Jackson State University	238	150	0	48	5	23	0	12
Mississippi State University	1,087	49	0	74	44	586	12	322
Mississippi University for Women	31	1	0	0	0	29	0	1
University of Mississippi	739	81	0	21	7	363	2	265
University of Southern Mississippi	603	29	2	20	2	491	2	57
Tennessee								
Austin Peay State University	54	0	0	0	1	53	0	0
East Tennessee State University	343	16	2	38	1	269	17	0
Fisk University	23	14	0	0	0	2	0	7

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Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Tennessee, continued								
Meharry Medical College	47	36	0	2	2	2	0	5
Memphis State University	896	76	0	17	6	517	165	115
Middle Tennessee State University	508	17	0	1	6	448	0	3
Tennessee State University	249	90	0	3	1	97	1	57
Tennessee Technological University	284	8	1	0	1	182	0	92
University of Tennessee at Chattanooga	280	27	0	5	0	218	0	30
University of Tennessee at Knoxville	2,668	65	7	38	13	2,037	0	508
University of Tennessee, Memphis	215	15	0	12	0	140	0	48
Vanderbilt University	996	19	7	15	9	643	5	298
West South Central	42,372	1,444	187	1,800	1,502	26,332	453	10,654
Arkansas								
Arkansas State University	1,891	104	6	50	12	1,470	1	248
University of Arkansas	318	30	0	1	0	271	1	15
University of Arkansas - Med Sci Campus	911	23	6	47	11	619	0	205
University of Arkansas at Little Rock	197	8	0	1	0	168	0	20
University of Central Arkansas	160	22	0	1	1	128	0	8
	305	21	0	0	0	284	0	0
Louisiana								
Grambling State University	5,201	382	8	255	70	2,808	129	1,549
Louisiana State University System	9	9	0	0	0	0	0	0
Louisiana Tech University	2,567	98	3	141	36	1,419	81	789
Loyola University in New Orleans	230	8	1	11	1	109	1	99
McNeese State University	2	0	0	0	0	2	0	0
Nicholls State University	126	4	0	2	0	92	3	25
Northeast Louisiana University	43	0	0	0	0	43	0	1
Northwest State University	202	11	0	63	2	123	2	0
Southeastern Louisiana University	159	23	0	1	3	132	0	0
Southern University A & M College	30	0	0	0	0	28	0	2
Tulane University of Louisiana	210	171	0	1	0	4	32	2
University of Southwestern Louisiana	1,009	32	3	12	21	572	9	360
Xavier University	538	12	0	22	3	233	0	268
	76	14	1	2	4	51	1	3
Oklahoma								
East Central University	4,668	105	101	88	67	2,739	76	1,492
Northeastern State University	8	0	0	0	0	8	0	0
Oklahoma State University	139	5	17	0	1	113	0	3
Southwestern Oklahoma State University	1,721	26	18	36	23	926	0	692
University of Oklahoma	68	3	1	2	1	61	0	0
University of Tulsa	2,472	68	61	46	37	1,485	71	704
	260	3	4	4	5	146	5	93
Texas								
Abilene Christian University	30,612	853	72	1,407	1,353	19,315	247	7,365
Angelo State University	114	3	0	0	2	108	0	1
Baylor College of Dentistry	125	4	3	0	7	110	0	1
Baylor College of Medicine	47	0	1	2	2	39	0	3
Baylor University	293	1	0	12	2	170	0	108
Corpus Christi State University	493	8	1	23	20	400	2	39
East Texas State University	162	2	0	2	23	135	0	0
Incarnate Word College	363	8	3	5	6	229	0	112
Lamar University	131	18	0	4	21	85	0	3
Midwestern State University	339	11	0	6	19	115	1	187
Prairie View A & M University	149	14	0	3	11	112	0	7
Rice University	141	72	0	3	1	6	0	59
Sam Houston State University	800	9	0	34	25	398	21	313
Southern Methodist University	343	13	0	21	8	249	3	49
Southwest Texas State University	901	24	0	105	21	599	0	152
St Mary's University of San Antonio	611	15	0	33	19	489	13	42
Stephen F. Austin State University	39	0	0	3	11	22	0	9
Sul Ross State University	204	3	0	3	3	186	0	3
Tarleton State University	52	0	0	0	8	37	0	7
Texas A & I University	58	0	0	0	1	56	0	1
Texas A & M University	262	1	0	0	61	98	2	100
Texas Christian University	4,927	75	13	71	192	2,805	36	1,735
Texas College of Osteopathic Medicine	153	2	0	2	13	111	5	20
Texas Southern University	0	0	0	0	0	0	0	0
Texas Tech University	175	97	0	25	0	4	4	45
Texas Woman's University	1,293	8	1	12	36	806	6	424
The University of Texas - Pan American	1,744	118	3	48	54	1,464	1	56
	9	0	0	0	4	5	0	0

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
Texas, continued								
Trinity University	105	1	1	0	4	84	12	3
Univ of Texas Hlth Sci Ctr San Antonio	465	7	1	10	19	381	3	44
Univ of Texas Hlth Sci Ctr at Houston	919	46	5	42	83	598	0	145
Univ of Texas MD Anderson Cancer Center	0	0	0	0	0	0	0	0
Univ of Texas Med Branch at Galveston	241	4	1	7	5	139	5	82
Univ of Texas SW Medical Ctr at Dallas	321	4	1	8	7	239	0	62
Univ of Texas at Arlington	2,001	34	8	124	45	1,257	0	533
Univ of Texas at Austin	4,717	37	10	82	145	2,729	20	1,694
Univ of Texas at Dallas	1,233	24	3	100	27	845	0	234
Univ of Texas at El Paso	766	9	1	13	229	289	6	219
University of Central Texas	102	27	1	3	5	57	0	9
University of Houston - Victoria	29	0	0	0	3	26	0	0
University of Houston at Clear Lake Cit	1,274	45	1	115	63	992	3	55
University of Houston-University Park	2,578	73	12	471	63	1,405	89	465
University of North Texas	1,206	20	0	2	17	863	13	291
University of Texas at San Antonio	286	8	1	10	59	193	1	14
University of Texas at Tyler	197	7	1	0	2	166	1	20
University of Texas of the Permian Basi	53	0	0	0	2	50	0	1
West Texas State University	191	1	0	1	5	164	0	20
Mountain	27,519	273	175	709	871	18,773	782	5,936
Arizona	7,552	73	90	153	315	4,684	95	2,142
Arizona State University	3,222	35	11	60	96	1,917	76	1,027
Northern Arizona University	955	15	55	21	102	720	0	40
University of Arizona	3,377	23	24	72	117	2,047	19	1,075
Colorado	8,554	125	28	281	234	6,358	251	1,277
Colorado School of Mines	679	5	0	2	17	396	76	183
Colorado State University	1,870	13	7	45	32	1,400	0	373
National Technological University	4,487	6	2	37	13	386	43	0
University of Colorado	4,198	65	16	148	114	3,381	99	375
University of Denver	981	31	1	40	38	533	20	318
University of Northern Colorado	339	5	2	9	20	262	13	28
Idaho	1,560	9	3	29	16	1,186	35	282
Idaho State University	512	1	1	9	2	465	11	23
University of Idaho	1,048	8	2	20	14	721	24	259
Montana	1,084	2	9	9	4	826	15	219
Montana College Mineral Sci & Technolog	91	0	0	0	0	76	0	15
Montana State University	483	2	4	5	1	352	1	117
University of Montana	510	2	5	4	3	395	14	87
Nevada	1,183	25	1	20	14	677	229	217
University of Nevada at Las Vegas	311	25	0	6	3	204	5	68
University of Nevada at Reno	872	0	1	14	11	473	224	149
New Mexico	2,945	26	28	141	256	1,943	48	503
Eastern New Mexico University	99	5	1	0	6	73	0	14
New Mexico Highlands University	57	0	1	2	19	25	0	10
New Mexico Institute of Mining and Tech	245	0	0	68	8	120	8	41
New Mexico State University	883	13	5	18	103	544	12	188
University of New Mexico	1,661	8	21	53	120	1,181	28	250
Utah	3,790	11	12	63	28	2,460	78	1,138
Brigham Young University	680	1	0	3	5	568	1	102
University of Utah	1,876	2	2	41	11	1,211	74	535
Utah State University	1,234	8	10	19	12	681	3	501
Wyoming	851	2	4	13	4	639	31	158
University of Wyoming	851	2	4	13	4	639	31	158
Pacific	72,177	1,766	321	5,247	2,385	43,284	3,830	15,344
Alaska	680	4	4	18	2	518	32	102
University of Alaska Southeast	20	0	0	2	0	18	0	0
University of Alaska at Anchorage	173	4	1	4	1	163	0	0
University of Alaska at Fairbanks	487	0	3	12	1	337	32	102
California	59,033	1,636	264	4,523	2,266	34,917	3,424	12,003
Azusa Pacific University	260	12	0	9	4	93	0	142
Biola University	190	5	1	10	7	156	0	11
Calif Poly State Univ at San Luis Obisp	344	2	1	12	6	219	37	67

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-4. Graduate students in the science, engineering, and health fields in all institutions by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non-Hispanic	American Indian/Alaskan Native	Asian/Pacific Islander	Hispanic	White non-Hispanic	Other or unknown	
California, continued								
Calif Sch of Prof Psych - Fresno	251	8	1	12	13	191	16	10
Calif Sch of Prof Psych - Los Angeles	585	46	6	32	58	428	3	12
Calif Sch of Prof Psych - San Diego	519	9	4	11	25	463	0	8
Calif Sch of Prof Psych-Berkeley/Alamed	512	21	1	21	17	413	0	39
Calif State Polytechnic Univ at Pomona	471	10	1	75	18	249	54	64
Calif State Univ at Dominguez Hills	462	146	0	24	82	170	22	18
Calif State Univ at Fullerton	1,089	20	10	108	45	583	78	245
Calif State Univ at Hayward	857	57	10	55	41	549	67	78
Calif State Univ at Long Beach	2,209	82	15	281	130	1,192	180	329
Calif State Univ at Los Angeles	1,090	114	6	149	155	437	129	100
Calif State Univ at San Bernardino	186	13	3	3	17	128	12	10
Calif State Univ of Stanislaus	114	0	0	0	0	0	114	0
Calif State University at Chico	491	6	7	21	16	356	29	56
Calif State University at Fresno	639	11	4	41	41	404	100	38
Calif State University at Northridge	1,436	9	0	76	29	726	405	191
Calif State University at Sacramento	863	15	5	67	22	515	86	153
California Institute of Integral Studie	250	0	0	0	0	0	250	0
California Institute of Technology	1,088	4	0	62	6	565	7	444
California State Univ - Bakersfield	161	11	2	7	14	113	11	3
Chapman College	260	7	0	7	38	179	26	3
Charles R. Drew Univ of Medicine & Sci	0	0	0	0	0	0	0	0
Claremont Univ Center & Graduate School	511	4	38	8	6	377	0	78
Dominican College of San Rafael	107	0	0	2	1	77	0	27
Fuller Theological Seminary	338	8	1	28	13	263	0	25
Golden Gate University	354	56	0	18	15	247	13	4
Harvey Mudd College	7	0	0	0	0	7	0	0
Humboldt State University	305	0	0	8	13	0	284	0
John F Kennedy University	800	17	5	17	23	700	38	0
Loma Linda University	459	19	0	29	9	331	5	66
Loyola Marymount University	221	5	1	30	8	166	0	11
National University	507	28	0	44	25	372	2	36
Northrop University	323	2	0	7	2	25	0	287
Occidental College	1	0	0	0	0	1	0	0
Pacific Grad School of Prof Psych	368	5	2	12	11	338	0	0
Pacific States University	20	0	0	0	0	0	0	20
Pepperdine University	731	27	7	25	42	567	22	41
Rand Graduate School of Policy Studies	48	1	0	2	0	37	0	8
San Diego State University	2,037	50	8	128	125	1,470	134	122
San Francisco State University	1,007	27	4	86	33	536	152	169
San Jose State University	1,913	39	7	215	55	995	167	435
Santa Clara University	1,293	8	2	222	17	578	97	369
Sonoma State University	196	2	3	1	8	146	29	7
Stanford University	4,275	81	15	417	127	2,526	86	1,023
The Fielding Institute	473	17	2	4	11	439	0	0
The Wright Institute	207	9	2	5	5	186	0	0
US International University	519	20	5	14	22	422	0	36
US Naval Postgraduate School	1,361	9	0	26	9	786	114	417
University of Calif at Berkeley	5,274	138	25	396	185	2,971	114	1,445
University of Calif at Davis	2,717	36	8	124	77	1,680	69	723
University of Calif at Irvine	1,279	14	4	133	39	787	27	275
University of Calif at Los Angeles	4,523	125	13	489	174	2,396	95	1,231
University of Calif at Riverside	711	6	4	28	27	449	11	186
University of Calif at San Diego	1,941	22	8	153	78	1,139	106	435
University of Calif at San Francisco	1,083	24	2	87	51	834	1	84
University of Calif at Santa Barbara	1,525	34	7	60	47	955	18	404
University of Calif at Santa Cruz	608	15	3	38	43	369	37	103
University of La Verne	141	13	0	2	6	85	8	27
University of Redlands	28	1	1	1	5	25	0	0
University of San Diego	188	2	0	1	5	170	0	10
University of San Francisco	147	17	0	29	8	68	1	24

See explanatory information, if any, and SOURCE(S) at end of table.

Table E-4. Graduate students in the science, engineering, and health fields in all institutions
by geographic division, State, institution, citizenship, and racial/ethnic background of U.S. citizens: 1990

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Division, State, and institution	Total	U.S. citizens						Non-U.S.
		Black non- Hispanic	American Indian/ Alaskan Native	Asian/ Pacific Islander	Hispanic	White non- Hispanic	Other or unknown	
California, continued								
University of Southern California	5,707	144	7	533	159	3,122	29	1,713
University of the Pacific	144	0	2	8	2	101	4	27
West Coast University	309	3	0	10	1	46	135	114
Hawaii	1,984	13	8	342	10	808	47	756
University of Hawaii at Manoa	1,984	13	8	342	10	808	47	756
Oregon	3,851	28	14	121	24	2,255	124	1,285
Oregon Grad Inst of Science & Technolog	188	0	0	7	0	108	0	73
Oregon Health Sciences University	103	0	0	5	1	66	0	31
Oregon State University	1,795	6	5	47	11	921	50	755
Pacific University	6	0	0	0	0	6	0	0
Portland State University	918	16	6	36	3	615	66	176
Southern Oregon State College	28	0	0	0	1	27	0	0
University of Oregon	776	5	3	24	8	479	8	249
University of Portland	37	1	0	2	0	33	0	1
Washington	6,629	85	31	243	83	4,786	203	1,198
Central Washington University	119	1	1	3	3	110	1	0
Eastern Washington University	244	1	3	3	2	207	4	24
Gonzaga University	10	0	0	2	0	7	0	1
Pacific Lutheran University	69	0	0	4	2	52	10	1
Saint Martin's College	18	2	0	0	0	15	0	1
Seattle University	243	11	3	6	2	163	41	17
University of Washington	4,335	48	14	185	62	3,142	120	764
Walla Walla College	3	0	0	0	0	3	0	0
Washington State University	1,271	21	8	33	12	804	18	375
Western Washington University	306	1	2	7	0	272	9	15
Whitworth College	11	0	0	0	0	11	0	0
Outlying Areas	2,539	0	0	0	2,354	26	0	159
Guam	0	0	0	0	0	0	0	0
University of Guam	0	0	0	0	0	0	0	0
Puerto Rico	2,539	0	0	0	2,354	26	0	159
Caribbean Center for Advanced Studies	216	0	0	0	208	1	0	7
Catholic University of Puerto Rico	54	0	0	0	54	0	0	0
Ponce School of Medicine	19	0	0	0	19	0	0	0
University of Puerto Rico	358	0	0	0	233	13	0	112
University of Puerto Rico - Rio Piedras	1,235	0	0	0	1,193	4	0	38
University of Puerto Rico Med Sci Campu	657	0	0	0	647	8	0	2

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students
and Postdoctorates in Science and Engineering

Table F-1. Graduate science and engineering students by enrollment status and total postdoctoral appointees in doctorate-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
Total, all institutions	398,405	275,262	123,143	30,432
1 University of Wisconsin - Madison	5,746	5,099	647	447
2 University of Southern California	5,707	3,549	2,158	377
3 University of Minnesota	5,610	4,648	962	373
4 University of Michigan	5,284	4,657	627	477
5 University of Calif at Berkeley	5,274	5,274	0	973
6 Ohio State University	5,188	4,474	714	266
7 Texas A & M University	4,927	4,145	782	205
8 University of Illinois at Urbana	4,894	4,805	89	241
9 Univ of Texas at Austin	4,717	3,914	803	286
10 Pennsylvania State University	4,700	3,101	1,599	161
Total, 1st 10 insts.	52,047	43,666	8,381	3,806
11 University of Calif at Los Angeles	4,523	4,444	79	665
12 George Washington University	4,426	1,472	2,954	11
13 University of Washington	4,335	3,384	951	815
14 Stanford University	4,275	3,960	315	764
15 Rutgers the State University	4,249	2,181	2,068	170
16 Massachusetts Institute of Technology	4,245	4,156	89	406
17 University of Colorado	4,198	3,073	1,125	288
18 University of Maryland - College Park	3,931	2,372	1,559	137
19 Purdue University	3,915	3,568	347	217
20 Indiana University	3,914	2,706	1,208	325
Total, 1st 20 insts.	94,058	74,982	19,076	7,604
21 University of Pittsburgh	3,852	2,174	1,678	211
22 University of Florida	3,588	2,419	1,169	311
23 Cornell University	3,408	3,408	0	445
24 University of Arizona	3,377	2,792	585	282
25 SUNY - Buffalo	3,316	2,178	1,138	311
26 Virginia Polytechnic Inst and State Uni	3,275	2,435	840	63
27 University of Massachusetts	3,251	1,512	1,739	221
28 Harvard University	3,231	3,098	133	2,292
29 Arizona State University	3,222	1,842	1,380	47
30 New York University	3,161	1,454	1,707	185
Total, 1st 30 insts.	127,739	98,294	29,445	11,975
31 Wayne State University	3,155	1,583	1,572	144
32 University of Illinois at Chicago	3,121	1,936	1,185	151
33 Univ of North Carolina at Chapel Hill	3,066	2,607	459	361
34 North Carolina State Univ at Raleigh	3,045	2,451	594	168
35 Michigan State University	2,993	2,527	466	207
36 Georgia Institute of Technology	2,972	2,220	752	47
37 Columbia University Main Division	2,942	2,245	697	427
38 Iowa State University of Sci & Tech	2,755	2,272	483	81
39 University of Calif at Davis	2,717	2,597	120	251
40 University of Tennessee at Knoxville	2,668	1,555	1,113	136
Total, 1st 40 insts.	157,173	120,287	36,886	13,948
41 University of Houston-University Park	2,578	1,082	1,496	161
42 University of Cincinnati	2,576	1,752	824	148
43 Louisiana State University System	2,567	2,039	528	198
44 University of Pennsylvania	2,526	2,313	213	602
45 University of Connecticut	2,510	1,753	757	124
46 University of Oklahoma	2,472	1,598	874	103
47 Northeastern University	2,414	1,131	1,283	33
48 Boston University	2,346	1,725	621	36
49 SUNY - Stony Brook	2,305	1,581	724	212
50 University of Iowa	2,301	1,840	461	282
Total, 1st 50 insts.	181,768	137,101	44,667	15,847
51 New Jersey Institute of Technology	2,283	857	1,426	0
52 George Mason University	2,275	511	1,764	0
53 University of Kansas	2,257	1,012	1,245	150
54 University of South Florida	2,158	1,038	1,120	49
55 Syracuse University	2,155	1,290	865	58
56 University of Lowell	2,070	791	1,279	10
57 CUNY Graduate School and Univ Center	2,068	1,851	217	46
58 San Diego State University	2,037	1,079	958	11
59 University of Chicago	2,016	2,016	0	431
60 Univ of Texas at Arlington	2,001	892	1,109	38
Total, 1st 60 insts.	203,088	148,438	54,650	16,640

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-1. Graduate science and engineering students by enrollment status and total postdoctoral appointees in doctorate-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
61 University of Hawaii at Manoa	1,984	1,655	329	68
62 University of Missouri - Columbia	1,983	1,289	694	81
63 Polytechnic University	1,974	370	1,604	15
64 University of Calif at San Diego	1,941	1,814	127	715
65 Yale University	1,934	1,781	153	856
66 Columbia University Teachers College	1,928	713	1,215	0
67 Northwestern University	1,920	1,840	80	233
68 University of Kentucky	1,906	1,485	421	123
69 University of Virginia	1,906	1,761	145	273
70 University of Utah	1,876	1,413	463	169
Total, 1st 70 insts.	222,440	162,559	59,881	19,173
71 University of South Carolina	1,874	1,221	653	50
72 Colorado State University	1,870	1,399	471	184
73 Case Western Reserve University	1,803	1,236	567	306
74 Oregon State University	1,795	1,657	138	73
75 Rensselaer Polytechnic Institute	1,790	1,314	476	69
76 Illinois Institute of Technology	1,776	540	1,236	14
77 Johns Hopkins University	1,756	1,520	236	716
78 University of Wisconsin - Milwaukee	1,747	965	782	31
79 Texas Woman's University	1,744	653	1,091	2
80 Oklahoma State University	1,721	826	895	29
Total, 1st 80 insts.	240,316	173,890	66,426	20,647
81 Virginia Commonwealth University	1,712	1,071	641	141
82 Auburn University	1,699	895	804	31
83 University of New Mexico	1,661	1,134	527	74
84 Carnegie-Mellon University	1,657	1,252	405	89
85 University of Georgia	1,653	1,449	204	139
86 Washington University	1,593	1,204	389	404
87 University of Akron	1,593	910	683	57
88 Southern Illinois Univ at Carbondale	1,565	1,170	395	35
89 The American University	1,559	899	660	0
90 University of Nebraska - Lincoln	1,550	1,258	292	60
Total, 1st 90 insts.	256,558	185,132	71,426	21,677
91 Kansas State University	1,532	1,307	225	69
92 University of Calif at Santa Barbara	1,525	1,505	20	167
93 West Virginia University	1,522	1,037	485	50
94 Temple University	1,505	1,071	434	94
95 Long Island University	1,503	419	1,084	1
96 Clemson University	1,500	1,123	377	18
97 The University of Alabama at Birmingham	1,499	1,055	444	210
98 Florida State University	1,483	1,076	407	90
99 Western Michigan University	1,479	576	903	1
100 De Paul University	1,444	578	866	0
Total, 1st 100 insts.	271,550	194,879	76,671	22,377
101 University of Rochester	1,411	1,271	140	226
102 Drexel University	1,410	482	928	27
103 Duke University	1,388	1,290	98	335
104 US Naval Postgraduate School	1,361	1,361	0	10
105 University of Delaware	1,357	1,024	333	58
106 Pace University	1,354	124	1,230	0
107 Princeton University	1,335	1,334	1	274
108 Stevens Institute of Technology	1,333	466	867	7
109 University of Rhode Island	1,310	872	438	33
110 Texas Tech University	1,293	984	309	43
Total, 1st 110 insts.	285,102	204,087	81,015	23,390
111 Santa Clara University	1,293	155	1,138	2
112 University of Calif at Irvine	1,279	1,196	83	235
113 Washington State University	1,271	1,130	141	87
114 SUNY - Albany	1,264	815	449	22
115 University of Puerto Rico - Rio Piedras	1,235	812	423	7
116 Utah State University	1,234	1,047	187	31
117 Univ of Texas at Dallas	1,233	542	691	7
118 University of Missouri - Rolla	1,224	582	642	5
119 University of Central Florida	1,216	497	719	3
120 University of Miami	1,213	897	316	127
Total, 1st 120 insts.	297,564	211,760	85,804	23,916

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-1. Graduate science and engineering students by enrollment status and total postdoctoral appointees in doctorate-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
121 University of North Texas	1,206	888	318	12
122 Old Dominion University	1,195	577	618	1
123 SUNY - Binghamton	1,182	622	560	7
124 Antioch University	1,166	861	285	0
125 Northern Illinois University	1,116	761	355	21
126 University of Louisville	1,115	531	584	30
127 Georgia State University	1,111	669	442	25
128 Cleveland State University	1,099	294	805	9
129 The University of Alabama in Huntsville	1,099	382	717	8
130 California Institute of Technology	1,088	1,088	0	331
Total, 1st 130 insts.	308,921	218,433	90,488	24,360
131 Mississippi State University	1,087	898	189	24
132 University of Calif at San Francisco	1,083	1,069	14	981
133 University of Idaho	1,048	540	508	44
134 Tufts University	1,037	820	217	221
135 Kent State University	1,029	598	431	0
136 Emory University	1,013	783	230	114
137 Tulane University of Louisiana	1,009	828	181	31
138 Ohio University	1,004	851	153	7
139 Vanderbilt University	996	925	71	222
140 Wright State University	993	420	573	8
Total, 1st 140 insts.	319,220	226,165	93,055	26,012
141 New School for Social Research	984	509	475	0
142 University of Denver	981	809	172	34
143 Wichita State University	972	330	642	0
144 University of Maryland - Balt Prof Sch	965	464	501	75
145 Northern Arizona University	953	565	388	2
146 Adelphi University	947	272	675	2
147 Catholic University of America	940	258	682	17
148 New York Institute of Technology	939	347	592	0
149 Nova University	923	338	585	0
150 Univ of Texas Hlth Sci Ctr at Houston	919	537	382	0
Total, 1st 150 insts.	328,743	230,594	98,149	26,142
151 Portland State University	918	419	499	0
152 University of Maryland - Baltimore Cnty	913	524	389	14
153 Fairleigh Dickinson University	912	203	709	0
154 University of Arkansas	911	729	182	24
155 Southern Methodist University	901	155	746	16
156 Memphis State University	896	474	422	9
157 Florida Institute of Technology	894	408	486	14
158 New Mexico State University	883	637	246	24
159 Worcester Polytechnic Institute	878	400	478	13
160 University of Nevada at Reno	872	463	409	44
Total, 1st 160 insts.	337,721	235,006	102,715	26,300
161 University of Dayton	871	170	701	2
162 CUNY City College	854	258	596	11
163 University of Wyoming	851	641	210	25
164 Villanova University	844	180	664	2
165 Marquette University	815	463	352	13
166 University of Missouri - Kansas City	812	281	531	16
167 CUNY Hunter College	809	267	542	3
168 The University of Alabama	807	695	112	30
169 University of Notre Dame	807	773	34	58
170 St. Louis University	800	377	423	41
Total, 1st 170 insts.	345,991	239,111	106,880	26,501
171 Rice University	800	755	45	97
172 Howard University	781	429	352	12
173 University of Oregon	776	715	61	78
174 Florida International University	772	248	524	4
175 Brown University	769	725	44	95
176 Univ of Texas at El Paso	766	412	354	5
177 Lehigh University	764	587	177	46
178 Florida Atlantic University	742	321	421	0
179 University of Mississippi	739	632	107	53
180 Loyola University of Chicago	730	411	319	24
Total, 1st 180 insts.	353,630	244,346	109,284	26,915

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-1. Graduate science and engineering students by enrollment status and total postdoctoral appointees in doctorate-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
181 University of Calif at Riverside	711	684	27	131
182 St John's University	707	327	380	3
183 Georgetown University	703	344	359	71
184 University of Toledo	700	463	237	33
185 University of New Hampshire	683	546	137	9
186 Brigham Young University	680	410	270	45
187 Colorado School of Mines	679	455	224	0
188 Oakland University	668	228	440	0
189 University of Maine	660	506	154	14
190 University of Puerto Rico Med Sci Campus	657	430	227	1
Total, 1st 190 insts.	360,478	248,939	111,539	27,222
191 Air Force Institute of Technology	653	548	105	0
192 University of Vermont & St Agric Colleg	625	492	133	78
193 Boston College	623	412	211	18
194 University of Calif at Santa Cruz	608	600	8	45
195 University of Southern Mississippi	603	445	158	11
196 Yeshiva University	590	455	135	256
197 Calif Sch of Prof Psych - Los Angeles	585	482	103	0
198 Bowling Green State University	581	453	128	27
199 Fordham University	566	271	295	0
200 University of Detroit	564	155	409	0
Total, 1st 200 insts.	366,476	253,252	113,224	27,657
201 North Dakota State University	560	482	78	18
202 Hofstra University	549	284	265	0
203 University of Southwestern Louisiana	538	410	128	5
204 Univ of North Carolina at Greensboro	530	343	187	0
205 SUNY - Coll of Env Science and Forestry	527	295	232	16
206 Illinois State University	523	362	161	3
207 US International University	519	213	306	0
208 Calif Sch of Prof Psych - San Diego	519	319	200	0
209 Calif Sch of Prof Psych-Berkeley/Alamed	512	440	72	0
210 Idaho State University	512	260	252	0
Total, 1st 210 insts.	371,765	256,660	115,105	27,699
211 Claremont Univ Center & Graduate School	511	157	354	0
212 University of Montana	510	389	121	5
213 Hahnemann University	506	412	94	22
214 University of Nebraska - Omaha	505	95	410	0
215 Union Institute	501	501	0	0
216 University of South Alabama	494	230	264	20
217 Baylor University	493	402	91	12
218 South Dakota State University	493	306	187	5
219 University of Alaska at Fairbanks	487	326	161	7
220 Montana State University	483	442	41	32
Total, 1st 220 insts.	376,748	259,920	116,828	27,802
221 The Fielding Institute	473	473	0	0
222 Rush University	471	302	169	23
223 Miami University	468	429	39	19
224 Univ of Texas Hlth Sci Ctr San Antonio	465	321	144	177
225 Michigan Technological University	464	448	16	0
226 Loma Linda University	459	252	207	24
227 Ball State University	421	266	155	0
228 Brandeis University	416	414	2	92
229 Duquesne University	380	185	195	0
230 Pacific Grad School of Prof Psych	368	118	250	0
Total, 1st 230 insts.	381,133	263,128	118,005	28,137
231 East Texas State University	363	173	190	0
232 East Carolina University	363	280	83	16
233 University of Puerto Rico	358	354	4	0
234 Golden Gate University	354	15	339	0
235 East Tennessee State University	343	150	193	0
236 Sam Houston State University	343	187	156	0
237 University of Northern Colorado	339	216	123	0
238 Dartmouth College	339	337	2	62
239 Lamar University	339	272	67	5
240 Fuller Theological Seminary	338	317	21	0
Total, 1st 240 insts.	384,612	265,429	119,183	28,220

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-1. Graduate science and engineering students by enrollment status and total postdoctoral appointees in doctorate-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
241 College of William and Mary	334	283	51	10
242 University of North Dakota	326	273	53	5
243 Univ of Texas SW Medical Ctr at Dallas	321	321	0	274
244 University of Missouri - St Louis	316	108	208	11
245 Clarkson University	312	303	9	42
246 Andrews University	299	134	165	1
247 Indiana State University	298	197	101	0
248 Central Michigan University	298	247	51	2
249 Baylor College of Medicine	293	293	0	217
250 Medical College of Ohio at Toledo	292	110	182	43
Total, 1st 250 insts.	387,701	267,698	120,003	28,825
251 Univ of Med and Dent of New Jersey	284	260	24	146
252 Tennessee Technological University	284	202	82	0
253 Clark Atlanta University	279	191	88	3
254 Seton Hall University	278	50	228	0
255 University of Nebraska Medical Center	277	106	171	43
256 University of South Dakota	260	173	87	0
257 University of Tulsa	260	167	93	0
258 New York Medical College	257	63	194	22
259 Forest Institute of Prof Psych	256	159	97	0
260 Clark University	253	217	36	10
Total, 1st 260 insts.	390,389	269,286	121,103	29,049
261 Calif Sch of Prof Psych - Fresno	251	239	12	0
262 California Institute of Integral Studie	250	115	135	0
263 New Mexico Institute of Mining and Tech	245	245	0	0
264 South Dakota School of Mines and Tech	242	208	34	7
265 Univ of Texas Med Branch at Galveston	241	210	31	117
266 Marshall University	237	119	118	1
267 Louisiana Tech University	230	176	54	0
268 Wake Forest University	219	198	21	67
269 Caribbeann Center for Advanced Studies	216	163	53	0
270 University of Tennessee, Memphis	215	155	60	66
Total, 1st 270 insts.	392,735	271,114	121,621	29,307
271 The Wright Institute	207	207	0	0
272 Stephen F. Austin State University	204	137	67	0
273 Medical College of Georgia	202	100	102	51
274 Northeast Louisiana University	202	182	20	0
275 Union College(NY)	198	46	152	0
276 University of Arkansas - Med Sci Campus	197	81	116	8
277 Biola University	190	156	34	0
278 Oregon Grad Inst of Science & Technolog	188	139	49	10
279 Medical University of South Carolina	168	158	10	65
280 Thomas Jefferson University	158	85	73	110
Total, 1st 280 insts.	394,649	272,405	122,244	29,551
281 Chicago School of Prof Psych	158	97	61	0
282 Texas Christian University	153	108	45	7
283 Florida A & M University	153	122	31	2
284 Spalding University	149	24	125	0
285 CUNY Mt. Sinai Sch of Medicine	146	146	0	0
286 University of the Pacific	144	131	13	1
287 Alfred University	139	111	28	0
288 Creighton University	130	39	91	6
289 Rockefeller University	128	128	0	237
290 Indiana University of Pennsylvania	123	93	30	0
Total, 1st 290 insts.	396,072	273,404	122,668	29,804
291 Uniformed Serv Univ of the Hlth Science	123	123	0	15
292 Wesleyan University	121	116	5	8
293 University of Health Sciences (Chicago)	119	117	2	19
294 Bryn Mawr College	114	19	95	0
295 Eastern Virginia Medical School	111	98	13	0
296 SUNY - Health Sci Ctr at Brooklyn	108	107	1	48
297 Oregon Health Sciences University	103	99	4	32
298 University of Northern Iowa	102	90	12	0
299 The Medical College of Pennsylvania	100	81	19	34
300 Mayo Graduate School	98	88	10	119
Total, 1st 300 insts.	397,171	274,342	122,829	30,079

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-1. Graduate science and engineering students by enrollment status and total postdoctoral appointees in doctorate-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
301 Medical College of Wisconsin	91	80	11	83
302 Mercer University	88	4	84	0
303 Albany Medical Center Graduate School	86	82	4	12
304 University of Maryland Eastern Shore	82	41	41	0
305 CUNY Herbert H. Lehman College	78	16	62	0
306 Maharishi International University	77	77	0	1
307 Xavier University	76	65	11	7
308 Univ. of Osteopathic Med & Health Sci	68	68	0	0
309 Philadelphia Coll of Pharmacy and Sci	61	49	12	3
310 Emerson College	58	41	17	0
Total, 1st 310 insts.	397,936	274,865	123,071	30,185
311 Institute of Paper Science & Technology	57	55	2	1
312 Catholic University of Puerto Rico	54	51	3	0
313 St. Louis Health Sci Ctr at Syracuse	51	46	5	16
314 Rand Graduate School of Policy Studies	48	48	0	0
315 Baylor College of Dentistry	47	37	10	0
316 Meharry Medical College	47	47	0	5
317 Mass College of Pharmacy/Allied Health	41	37	4	1
318 Institute of Textile Technology	30	30	0	0
319 University of New England	29	18	11	0
320 SUNY State College of Optometry	28	13	15	0
Total, 1st 320 insts.	398,368	275,247	123,121	30,208
321 Ponce School of Medicine	19	9	10	0
322 Phila College of Osteopathic Medicine	12	0	12	14
323 Smith College	5	5	0	0
324 Kirksville College of Osteopathic Med	1	1	0	2
325 Univ of Health Sciences (Kansas City)	0	0	0	0
326 Woods Hole Oceanographic Institution	0	0	0	24
327 Texas College of Osteopathic Medicine	0	0	0	18
328 Providence College	0	0	0	0
329 Chicago Coll of Osteo Medicine	0	0	0	1
330 Morehouse School of Medicine	0	0	0	13
Total, 1st 330 insts.	398,405	275,262	123,143	30,280
331 Univ of Texas MD Anderson Cancer Center	0	0	0	152
332 West Virginia Sch of Osteopathic Med	0	0	0	0
333 NE Ohio Univ Med School	0	0	0	0
334 Charles R. Drew Univ of Medicine & Sci	0	0	0	0
Total, 1st 334 insts.	398,405	275,262	123,143	30,432

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table F-2. Female graduate science and engineering students by enrollment status and female postdoctoral appointees in doctorate-granting institutions, ranked by female graduate science and engineering students: 1990

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Institutional ranking	Total female students	Female full-time students	Female part-time students	Female postdoctoral appointees
Total, all institutions	149,472	97,133	52,339	8,250
1 University of Minnesota	2,079	1,648	431	99
2 University of Wisconsin - Madison	1,982	1,634	348	144
3 Indiana University	1,931	1,119	812	94
4 University of Calif at Los Angeles	1,813	1,767	46	207
5 University of Calif at Berkeley	1,769	1,769	0	296
6 University of Washington	1,763	1,346	417	257
7 University of Pittsburgh	1,696	824	872	72
8 Rutgers the State University	1,686	785	901	44
9 Ohio State University	1,666	1,317	349	79
10 George Washington University	1,641	622	1,019	2
Total, 1st 10 insts.	18,026	12,831	5,195	1,294
11 New York University	1,619	639	980	55
12 University of Colorado	1,597	1,151	446	98
13 Texas Woman's University	1,549	541	1,008	2
14 Univ of North Carolina at Chapel Hill	1,541	1,254	287	116
15 University of Southern California	1,513	1,016	497	95
16 University of Michigan	1,450	1,321	129	130
17 Columbia University Teachers College	1,415	512	903	0
18 University of Massachusetts	1,401	681	720	65
19 University of Illinois at Chicago	1,377	770	607	41
20 Pennsylvania State University	1,330	957	373	32
Total, 1st 20 insts.	32,818	21,673	11,145	1,928
21 Texas A & M University	1,328	1,077	251	42
22 University of Maryland - College Park	1,251	754	517	15
23 SUNY - Buffalo	1,271	707	564	76
24 University of Illinois at Urbana	1,261	1,243	18	72
25 University of Florida	1,256	733	523	50
26 Wayne State University	1,249	611	638	44
27 Univ of Texas at Austin	1,247	961	286	39
28 Harvard University	1,142	1,066	76	615
29 Cornell University	1,087	1,087	0	129
30 Purdue University	1,085	959	126	38
Total, 1st 30 insts.	45,015	30,871	14,144	3,048
31 Arizona State University	1,085	565	520	16
32 University of Connecticut	1,068	728	340	38
33 University of Arizona	1,067	802	265	69
34 University of Cincinnati	1,037	652	385	38
35 SUNY - Stony Brook	1,027	605	422	58
36 University of Kansas	1,022	471	551	36
37 Virginia Commonwealth University	1,010	624	386	43
38 University of South Florida	1,004	426	578	8
39 Columbia University Main Division	998	725	273	139
40 Michigan State University	989	800	189	47
Total, 1st 40 insts.	55,322	37,269	18,053	3,540
41 San Diego State University	986	512	474	0
42 George Mason University	967	257	710	0
43 CUNY Graduate School and Univ Center	949	847	102	7
44 Massachusetts Institute of Technology	943	920	23	95
45 University of Calif at Davis	933	897	36	64
46 Long Island University	921	221	700	1
47 University of Oklahoma	918	515	403	15
48 Stanford University	914	874	40	243
49 Boston University	914	653	261	9
50 University of Tennessee at Knoxville	910	564	346	25
Total, 1st 50 insts.	64,677	43,529	21,148	3,999
51 University of Houston-University Park	899	369	530	33
52 Virginia Polytechnic Inst and State Uni	859	633	226	13
53 Northeastern University	851	426	425	13
54 University of Hawaii at Manoa	849	666	183	16
55 Antioch University	846	622	224	0
56 University of Iowa	837	560	277	75
57 Iowa State University of Sci & Tech	833	669	164	21
58 North Carolina State Univ at Raleigh	833	629	204	32
59 The University of Alabama at Birmingham	832	511	321	64
60 University of Wisconsin - Milwaukee	821	412	409	6
Total, 1st 60 insts.	73,137	49,026	24,111	4,272

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-2. Female graduate science and engineering students by enrollment status and female postdoctoral appointees in doctorate-granting institutions, ranked by female graduate science and engineering students: 19 J

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Institutional ranking	Total female students	Female full-time students	Female part-time students	Female postdoctoral appointees
61 Yale University	816	721	95	245
62 University of Pennsylvania	811	758	53	166
63 Johns Hopkins University	792	666	126	222
64 University of South Carolina	787	456	331	9
65 Adelphi University	781	198	583	1
66 University of Calif at San Francisco	781	770	11	302
67 University of Puerto Rico - Rio Piedras	773	500	273	1
68 Syracuse University	770	422	348	14
69 The American University	765	470	295	0
70 Louisiana State University System	746	588	158	49
Total, 1st 70 insts.	80,959	54,575	26,384	5,281
71 University of Kentucky	723	507	216	36
72 Case Western Reserve University	708	410	298	67
73 University of Maryland - Balt Prof Sch	707	285	422	23
74 Pace University	669	65	604	0
75 Northwestern University	667	642	25	69
76 Colorado State University	664	501	163	36
77 Temple University	664	467	197	38
78 University of Lowell	660	219	441	2
79 University of Utah	660	437	223	41
80 Western Michigan University	657	260	397	0
Total, 1st 80 insts.	87,738	58,368	29,370	5,593
81 University of Chicago	646	646	0	99
82 University of Missouri - Columbia	646	395	251	29
83 West Virginia University	637	361	276	10
84 University of Akron	633	305	328	3
85 University of Georgia	628	542	86	34
86 Georgia State University	626	379	247	10
87 Southern Illinois Univ at Carbondale	609	418	191	8
88 University of Calif at San Diego	601	565	36	165
89 Georgia Institute of Technology	601	448	153	8
90 University of New Mexico	601	394	207	23
Total, 1st 90 insts.	93,966	62,821	31,145	5,982
91 Nova University	595	235	360	0
92 De Paul University	594	251	343	0
93 Emory University	582	431	151	36
94 Univ of Texas at Arlington	579	261	318	3
95 Kent State University	573	294	279	0
96 University of Rhode Island	558	344	214	2
97 Tufts University	547	469	78	76
98 Northern Arizona University	543	318	225	2
99 Northern Illinois University	533	333	200	4
100 University of Virginia	532	511	21	67
Total, 1st 100 insts.	99,602	66,268	33,334	6,172
101 CUNY Hunter College	530	163	367	2
102 Florida State University	529	356	173	21
103 SUNY - Albany	524	313	211	9
104 St. Louis University	518	210	308	9
105 University of Denver	501	420	81	15
106 Univ of Texas Hlth Sci Ctr at Houston	500	262	238	0
107 University of Miami	498	318	180	23
108 Oklahoma State University	495	221	274	11
109 Old Dominion University	493	237	256	1
110 Carnegie-Mellon University	492	286	206	15
Total, 1st 110 insts.	104,682	69,054	35,628	6,278
111 University of Puerto Rico Med Sci Campus	489	354	135	5
112 University of North Texas	484	354	130	5
113 Auburn University	481	248	233	10
114 Oregon State University	478	432	46	19
115 Kansas State University	477	386	91	17
116 Duke University	474	443	31	88
117 University of Missouri - Kansas City	470	126	344	5
118 Fairleigh Dickinson University	466	125	341	0
119 Washington University	465	397	68	118
120 New School for Social Research	464	236	228	0
Total, 1st 120 insts.	109,430	72,155	37,275	6,541

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-2. Female graduate science and engineering students by enrollment status and female postdoctoral appointees in doctorate-granting institutions, ranked by female graduate science and engineering students: 1990

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Institutional ranking	Total female students	Female full-time students	Female part-time students	Female postdoctoral appointees
121 Wright State University	463	196	267	2
122 Wichita State University	462	117	345	0
123 University of Delaware	457	303	154	17
124 Calif Sch of Prof Psych - Los Angeles	449	358	91	0
125 Loyola University of Chicago	449	225	224	9
126 Catholic University of America	433	140	293	5
127 University of Rochester	429	374	55	57
128 Univ of Texas at Dallas	422	212	210	0
129 Tulane University of Louisiana	420	330	90	5
130 Washington State University	417	354	63	18
Total, 1st 130 insts.	113,831	74,764	39,067	6,654
131 Georgetown University	413	295	118	23
132 University of Central Florida	413	210	203	0
133 New Jersey Institute of Technology	412	152	260	0
134 Illinois Institute of Technology	407	97	310	5
135 SUNY - Binghamton	404	210	194	3
136 University of Nebraska - Lincoln	402	321	81	15
137 Cleveland State University	400	153	247	1
138 University of Calif at Santa Barbara	396	392	4	18
139 Texas Tech University	396	294	102	3
140 Boston College	395	222	173	4
Total, 1st 140 insts.	117,869	77,110	40,759	6,726
141 St John's University	391	211	180	1
142 Rush University	390	235	155	7
143 Univ of North Carolina at Greensboro	388	266	122	0
144 University of Louisville	386	192	194	7
145 Clemson University	385	274	111	6
146 Memphis State University	385	174	211	1
147 Florida International University	379	129	250	1
148 Calif Sch of Prof Psych-Berkeley/Alamed	377	325	52	0
149 Yeshiva University	373	277	96	99
150 University of Calif at Irvine	373	360	13	68
Total, 1st 150 insts.	121,696	79,553	42,143	6,916
151 Portland State University	372	164	208	0
152 Howard University	368	212	156	6
153 Calif Sch of Prof Psych - San Diego	368	224	144	0
154 Vanderbilt University	367	337	30	56
155 Princeton University	362	362	0	74
156 Ohio University	358	303	55	2
157 New York Institute of Technology	345	93	252	0
158 Mahanemah University	334	255	79	5
159 Univ of Texas at El Paso	332	119	213	1
160 University of Maryland - Baltimore Cnty	331	189	142	4
Total, 1st 160 insts.	125,233	81,811	43,422	7,064
161 Utah State University	331	272	59	13
162 The Fielding Institute	328	328	0	0
163 University of Wyoming	323	197	126	7
164 Rensselaer Polytechnic Institute	323	224	99	9
165 Marquette University	309	158	151	1
166 Drexel University	303	125	178	2
167 The University of Alabama in Huntsville	302	127	175	0
168 Santa Clara University	292	47	245	0
169 Hofstra University	291	164	127	0
170 US International University	288	113	175	0
Total, 1st 170 insts.	128,323	83,566	44,757	7,096
171 Mississippi State University	285	227	58	1
172 Univ of Texas Hlth Sci Ctr San Antonio	284	169	115	61
173 Illinois State University	284	199	85	1
174 University of South Alabama	283	107	176	5
175 University of Southern Mississippi	281	184	97	2
176 Fordham University	277	130	147	0
177 University of Calif at Riverside	273	259	14	39
178 Bowling Green State University	272	217	55	7
179 University of New Hampshire	270	217	53	6
180 Union Institute	269	269	0	0
Total, 1st 180 insts.	131,101	85,544	45,557	7,218

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-2. Female graduate science and engineering students by enrollment status and female postdoctoral appointees in doctorate-granting institutions, ranked by female graduate science and engineering students: 1990

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Institutional ranking	Total female students	Female full-time students	Female part-time students	Female postdoc-toral appoin-tees
181 Villanova University	266	60	206	0
182 Florida Institute of Technology	262	134	128	5
183 Polytechnic University	259	33	226	4
184 Loma Linda University	256	130	126	6
185 Florida Atlantic University	255	86	169	0
186 University of Vermont & St Agric Colleg	255	209	46	21
187 University of Nebraska - Omaha	254	50	204	0
188 Idaho State University	250	123	127	0
189 University of Nevada at Reno	249	118	131	8
190 University of Notre Dame	248	243	5	7
Total, 1st 190 insts.	133,655	86,730	46,925	7,269
191 University of Idaho	248	151	97	13
192 University of Mississippi	246	171	75	8
193 The University of Alabama	242	211	31	5
194 Duquesne University	233	104	129	0
195 Baylor University	232	182	50	1
196 CUNY City College	232	75	157	1
197 Oakland University	232	83	149	0
198 Miami University	230	205	25	5
199 South Dakota State University	229	92	137	0
200 University of Maine	227	173	54	3
Total, 1st 200 insts.	136,006	88,177	47,829	7,305
201 University of Detroit	223	64	159	0
202 Ball State University	221	123	98	0
203 University of Arkansas	221	186	35	6
204 New Mexico State University	219	155	64	7
205 East Carolina University	218	170	48	4
206 Andrews University	217	80	137	0
207 University of Calif at Santa Cruz	217	216	1	9
208 California Institute of Technology	216	216	0	61
209 University of Montana	214	155	59	2
210 Stevens Institute of Technology	208	35	173	0
Total, 1st 210 insts.	138,180	89,577	48,603	7,394
211 Brigham Young University	205	121	84	2
212 Rice University	204	196	8	20
213 Brown University	200	176	24	21
214 University of Oregon	198	187	11	26
215 Seton Hall University	192	29	163	0
216 University of Northern Colorado	191	134	57	0
217 Southern Methodist University	190	57	133	8
218 University of Toledo	187	117	70	0
219 Fuller Theological Seminary	187	174	13	8
220 University of Nebraska Medical Center	185	47	138	8
Total, 1st 220 insts.	140,119	90,815	49,304	7,481
221 Medical College of Ohio at Toledo	184	47	137	12
222 SUNY - Coll of Env Science and Forestry	183	99	84	3
223 Claremont Univ Center & Graduate School	181	59	122	0
224 Lehigh University	179	134	45	7
225 East Tennessee State University	176	82	94	0
226 University of Missouri - Rolla	176	94	82	1
227 Pacific Grad School of Prof Psych	173	64	109	0
228 Caribbean Center for Advanced Studies	168	129	39	0
229 University of Alaska at Fairbanks	166	115	51	4
230 Brandeis University	166	165	1	22
Total, 1st 230 insts.	141,871	91,803	50,068	7,530
231 Worcester Polytechnic Institute	163	81	82	0
232 University of Dayton	162	56	106	0
233 University of Arkansas - Med Sci Campus	161	54	107	0
234 University of Missouri - St Louis	158	53	105	1
235 Forest Institute of Prof Psych	156	92	64	0
236 US Naval Postgraduate School	156	156	0	0
237 Central Michigan University	153	131	22	0
238 Univ of Texas SW Medical Ctr at Dallas	152	152	0	83
239 Calif Sch of Prof Psych - Fresno	149	142	7	0
240 The Wright Institute	145	145	0	0
Total, 1st 240 insts.	143,426	92,865	50,561	7,614

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-2. Female graduate science and engineering students by enrollment status and female postdoctoral appointees in doctorate-granting institutions, ranked by female graduate science and engineering students: 1990

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Institutional ranking	Total female students	Female full-time students	Female part-time students	Female postdoc- total appointees
241 New York Medical College	144	25	119	8
242 Medical College of Georgia	143	62	81	18
243 California Institute of Integral Studie	141	64	77	0
244 Marshall University	141	67	74	0
245 North Dakota State University	140	113	27	7
246 University of Southwestern Louisiana	138	89	49	2
247 Colorado School of Mines	137	75	62	0
248 University of North Dakota	134	108	26	10
249 University of Tennessee, Memphis	133	78	55	5
250 Montana State University	133	106	27	5
Total, 1st 250 insts.	144,810	93,652	51,158	7,666
251 Univ of Med and Dent of New Jersey	132	119	13	61
252 Univ of Texas Med Branch at Galveston	128	99	29	32
253 East Texas State University	127	55	72	0
254 Thomas Jefferson University	125	55	70	43
255 College of William and Mary	123	106	17	1
256 Clark University	123	104	19	3
257 Sam Houston State University	122	76	46	0
258 Baylor College of Medicine	122	122	0	72
259 Indiana State University	122	81	41	0
260 University of Puerto Rico	115	111	4	0
Total, 1st 260 insts.	146,049	94,580	51,469	7,878
261 Spalding University	110	19	91	0
262 Clark Atlanta University	110	73	37	0
263 University of South Dakota	107	81	26	0
264 Golden Gate University	107	4	103	0
265 Michigan Technological University	105	100	5	0
266 Biola University	105	89	16	0
267 Chicago School of Prof Psych	104	66	38	0
268 Dartmouth College	101	99	2	15
269 Northeast Louisiana University	98	86	12	0
270 Wake Forest University	98	89	9	25
Total, 1st 270 insts.	147,094	95,286	51,808	7,918
271 Lamar University	97	74	23	3
272 Tennessee Technological University	94	61	33	0
273 University of the Pacific	88	81	7	0
274 University of Tulsa	86	67	19	0
275 Bryn Mawr College	83	13	70	0
276 Stephen F. Austin State University	79	51	28	0
277 Eastern Virginia Medical School	74	65	9	0
278 University of Health Sciences (Chicago)	72	70	2	8
279 Florida A & M University	72	59	13	2
280 Creighton University	71	14	57	1
Total, 1st 280 insts.	147,910	95,841	52,069	7,932
281 Medical University of South Carolina	68	62	6	21
282 Uniformed Serv Univ of the Hlth Science	66	66	0	3
283 University of Northern Iowa	66	57	9	0
284 Indiana University of Pennsylvania	63	44	19	0
285 Clarkson University	59	58	1	12
286 Texas Christian University	58	46	12	5
287 Union College(NY)	58	18	40	0
288 The Medical College of Pennsylvania	55	43	12	11
289 Emerson College	55	39	16	0
290 Wesleyan University	53	52	1	5
Total, 1st 290 insts.	148,511	96,326	52,185	7,988
291 Air Force Institute of Technology	52	38	14	0
292 Oregon Health Sciences University	51	50	1	12
293 CUNY Mt. Sinai Sch of Medicine	48	48	0	0
294 Univ. of Osteopathic Med & Health Sci	46	46	0	0
295 Rockefeller University	45	45	0	90
296 Alfred University	44	38	6	0
297 SUNY - Health Sci Ctr at Brooklyn	44	44	0	12
298 Louisiana Tech University	43	36	7	0
299 New Mexico Institute of Mining and Tech	43	43	0	0
300 South Dakota School of Mines and Tech	43	36	7	0
Total, 1st 300 insts.	148,970	96,750	52,220	8,102

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-2. Female graduate science and engineering students by enrollment status and female postdoctoral appointees in doctorate-granting institutions, ranked by female graduate science and engineering students: 1990

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Institutional ranking	Total female students	Female full-time students	Female part-time students	Female postdoctoral appointees
301 Oregon Grad Inst of Science & Technolog	41	31	10	5
302 Catholic University of Puerto Rico	41	41	0	0
303 Xavier University	39	32	7	3
304 Albany Medical Center Graduate School	37	34	3	0
305 Mayo Graduate School	36	31	5	27
306 Medical College of Wisconsin	36	30	6	25
307 University of Maryland Eastern Shore	30	16	14	0
308 CUNY Herbert W. Lehman College	28	4	24	0
309 SUNY - Health Sci Ctr at Syracuse	27	23	4	4
310 Meharry Medical College	23	23	0	2
Total, 1st 310 insts.	149,308	97,015	52,293	8,175
311 Mass College of Pharmacy/Allied Health	21	18	3	0
312 Rand Graduate School of Policy Studies	19	19	0	0
313 Philadelphia Coll of Pharmacy and Sci	19	16	3	0
314 SUNY State College of Optometry	17	7	10	0
315 Maharishi International University	15	15	0	0
316 Baylor College of Dentistry	15	12	3	0
317 Mercer University	15	2	13	0
318 Institute of Paper Science & Technology	13	11	2	0
319 University of New England	12	7	5	0
320 Ponce School of Medicine	11	4	7	0
Total, 1st 320 insts.	149,465	97,126	52,339	8,175
321 Smith College	4	4	0	0
322 Institute of Textile Technology	3	3	0	0
323 Phila College of Osteopathic Medicine	0	0	0	5
324 Providence College	0	0	0	0
325 Kirksville College of Osteopathic Med	0	0	0	0
326 Univ of Health Sciences (Kansas City)	0	0	0	0
327 Woods Hole Oceanographic Institution	0	0	0	5
328 Univ of Texas MD Anderson Cancer Center	0	0	0	55
329 Texas College of Osteopathic Medicine	0	0	0	5
330 West Virginia Sch of Osteopathic Med	0	0	0	0
Total, 1st 330 insts.	149,472	97,133	52,339	8,245
331 NE Ohio Univ Med School	0	0	0	0
332 Morehouse School of Medicine	0	0	0	5
333 Chicago Coll of Osteo Medicine	0	0	0	0
334 Charles R. Drew Univ of Medicine & Sci	0	0	0	0
Total, 1st 334 insts.	149,472	97,133	52,339	8,250

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table F-3. Minority graduate science and engineering students in
doctorate-granting institutions by racial/ethnic background,
ranked by total minority graduate science and engineering students: 1990

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Institutional ranking	Total minority students	Black non- Hispanic	American Indian/ Alaskan	Asian/ Pacific Islander	Hispanic
Total, all institutions	39,965	11,565	1,088	16,537	10,775
1 University of Puerto Rico - Rio Piedras	1,193	0	0	0	1,193
2 University of Southern California	843	144	7	533	159
3 University of Calif at Los Angeles	801	125	13	489	174
4 University of Calif at Berkeley	744	138	25	396	185
5 New Jersey Institute of Technology	680	74	0	543	63
6 University of Puerto Rico Med Sci Campus	647	0	0	0	647
7 Stanford University	640	81	15	417	127
8 University of Houston-University Park	619	73	12	471	63
9 Howard University	474	444	0	29	1
10 University of Illinois at Urbana	473	85	8	319	61
Total, 1st 10 insts.	7,114	1,164	80	3,197	2,673
11 Massachusetts Institute of Technology	467	72	7	318	70
12 University of Michigan	451	173	21	149	108
13 New York University	441	189	1	164	87
14 De Paul University	415	120	0	248	47
15 University of Illinois at Chicago	407	113	6	220	68
16 George Washington University	405	180	14	131	80
17 Rutgers the State University	401	161	11	146	83
18 University of Maryland - College Park	395	162	5	174	54
19 University of Hawaii at Manoa	373	13	8	342	10
20 Pennsylvania State University	364	100	16	201	47
Total, 1st 20 insts.	11,233	2,447	169	5,290	3,327
21 Columbia University Teachers College	356	181	3	71	101
22 Texas A & M University	351	75	13	71	192
23 Wayne State University	350	177	10	138	25
24 University of Colorado	343	65	16	148	114
25 University of Minnesota	334	39	7	226	62
26 Georgia Institute of Technology	331	146	2	108	75
27 Florida International University	331	98	1	23	209
28 University of Florida	318	120	12	88	98
29 Ohio State University	317	142	3	102	70
30 San Diego State University	311	50	8	128	125
Total, 1st 30 insts.	14,575	3,540	244	6,393	4,398
31 University of Washington	309	48	14	185	62
32 Harvard University	308	109	15	125	59
33 Long Island University	305	216	0	42	47
34 University of Wisconsin - Madison	301	53	17	150	81
35 Cornell University	286	65	10	149	62
36 Louisiana State University System	278	98	3	141	36
37 CUNY City College	276	103	0	101	72
38 Univ of Texas at Austin	274	37	10	82	145
39 George Mason University	270	76	7	153	34
40 SUNY - Buffalo	262	56	10	153	43
Total, 1st 40 insts.	17,444	4,401	330	7,674	5,039
41 University of Calif at San Diego	261	22	8	153	78
42 Univ of North Carolina at Chapel Hill	261	129	16	85	31
43 Michigan State University	254	76	1	69	101
44 Univ of Texas at El Paso	252	9	1	13	229
45 Columbia University Main Division	250	69	2	123	56
46 Santa Clara University	249	8	2	222	17
47 Pace University	249	87	2	101	59
48 North Carolina State Univ at Raleigh	248	124	6	96	22
49 University of Calif at Davis	245	36	8	124	77
50 Indiana University	244	107	16	60	61
Total, 1st 50 insts.	19,957	5,068	399	8,720	5,770
51 Virginia Polytechnic Inst and State Uni	242	62	4	144	32
52 University of Arizona	236	23	24	72	117
53 Illinois Institute of Technology	235	67	1	126	41
54 University of Puerto Rico	233	0	0	0	233
55 University of Pittsburgh	230	104	1	98	27
56 Johns Hopkins University	227	47	20	141	19
57 Purdue University	224	66	6	95	57
58 CUNY Hunter College	224	108	2	52	62
59 Texas Woman's University	223	118	3	48	54
60 University of South Florida	219	94	4	32	89
Total, 1st 60 insts.	22,250	5,757	464	9,528	6,501

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-3. Minority graduate science and engineering students in
doctorate-granting institutions by racial/ethnic background,
ranked by total minority graduate science and engineering students: 1990

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Institutional ranking	Total minority students	Black non- Hispanic	American Indian/ Alaskan	Asian/ Pacific Islander	Hispanic
61 Georgia State University	219	150	0	45	24
62 University of Oklahoma	212	68	61	46	37
63 Univ of Texas at Arlington	211	34	8	124	45
64 Western Michigan University	208	63	3	12	130
65 Polytechnic University	208	43	7	127	31
66 Caribbean Center for Advanced Studies	208	0	0	0	208
67 SUNY - Stony Brook	207	47	6	112	42
68 University of Miami	207	47	9	22	129
69 University of New Mexico	202	8	21	53	120
70 Arizona State University	202	35	11	60	96
Total, 1st 70 insts.	24,334	6,252	590	10,129	7,363
71 Virginia Commonwealth University	198	132	0	53	13
72 Temple University	198	86	2	74	36
73 Syracuse University	194	48	0	126	20
74 Northern Arizona University	193	15	55	21	102
75 Drexel University	191	14	3	148	14
76 University of Calif at Irvine	190	26	0	133	39
77 University of Lowell	185	28	0	133	21
78 CUNY Graduate School and Univ Center	182	85	0	31	66
79 University of Pennsylvania	180	47	0	99	34
80 Univ of Texas Hlth Sci Ctr at Houston	176	46	5	42	83
Total, 1st 80 insts.	26,221	6,779	661	10,990	7,791
81 University of South Carolina	174	104	3	34	33
82 Stevens Institute of Technology	172	19	0	126	27
83 Clark Atlanta University	171	170	0	0	1
84 The American University	169	89	2	33	45
85 Mississippi State University	167	49	0	74	44
86 Northwestern University	166	38	2	99	27
87 University of Missouri - Columbia	165	52	11	75	27
88 University of Calif at San Francisco	164	24	2	87	51
89 Catholic University of America	164	51	0	94	19
90 Boston University	161	37	4	78	42
Total, 1st 90 insts.	27,894	7,412	685	11,690	8,107
91 University of Massachusetts	160	45	6	53	56
92 University of Virginia	160	63	0	76	39
93 University of Central Florida	160	47	1	53	59
94 Yale University	154	43	10	75	26
95 Univ of Texas at Dallas	154	24	3	100	26
96 University of Chicago	153	38	4	61	50
97 University of Cincinnati	151	79	1	46	35
98 Southern Methodist University	150	24	0	105	21
99 The University of Alabama at Birmingham	150	92	0	42	16
100 University of Calif at Santa Barbara	148	34	7	60	47
Total, 1st 100 insts.	29,434	7,901	717	12,361	8,455
101 Florida State University	143	74	8	30	31
102 Calif Sch of Prof Psych - Los Angeles	142	46	6	32	58
103 New York Institute of Technology	140	53	2	59	26
104 New Mexico State University	139	13	5	18	103
105 University of Nebraska - Lincoln	138	38	2	71	27
106 Cleveland State University	138	58	1	71	8
107 University of Kentucky	137	30	14	83	10
108 University of Akron	136	72	2	56	6
109 Oakland University	136	23	0	101	12
110 New School for Social Research	131	49	1	30	51
Total, 1st 110 insts.	30,814	8,357	758	12,912	8,787
111 Nova University	127	29	4	24	70
112 Old Dominion University	126	68	1	39	18
113 University of Wisconsin - Milwaukee	124	47	8	34	35
114 University of Tennessee at Knoxville	123	65	3	38	13
115 University of Louisville	120	41	3	70	4
116 University of Connecticut	118	28	4	67	19
117 University of Georgia	117	61	3	2	17
118 Florida A & M University	114	109	0	36	3
119 Auburn University	112	71	1	26	14
120 University of Maryland - Balt Prof Sch	110	52	1	43	14
Total, 1st 120 insts.	32,005	8,928	792	13,291	8,994

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-3. Minority graduate science and engineering students in
doctorate-granting institutions by racial/ethnic background,
ranked by total minority graduate science and engineering students: 1990

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Institutional ranking	Total minority students	Black non- Hispanic	American Indian/ Alaskan	Asian/ Pacific Islander	Hispanic
121 University of Denver	110	31	1	40	38
122 Carnegie-Mellon University	109	41	1	50	17
123 Rensselaer Polytechnic Institute	109	13	0	74	22
124 University of Mississippi	109	81	0	21	7
125 Southern Illinois Univ at Carbondale	108	59	2	37	10
126 Wright State University	105	42	1	46	16
127 Oklahoma State University	103	26	18	36	23
128 Memphis State University	99	76	0	17	6
129 Case Western Reserve University	99	30	3	56	10
130 University of Calif at Santa Cruz	99	15	3	38	43
Total, 1st 130 insts.	33,055	9,342	821	13,706	9,186
131 Emory University	98	61	0	26	11
132 Colorado State University	97	13	7	45	32
133 Fairleigh Dickinson University	96	28	4	42	21
134 SUNY - Albany	95	54	1	26	26
135 Princeton University	94	18	0	55	21
136 Northern Illinois University	92	20	1	57	34
137 University of Detroit	91	35	0	30	16
138 Golden Gate University	90	36	0	46	22
139 University of Iowa	90	36	1	31	19
140 SUNY - Binghamton	89	38	1	31	19
Total, 1st 140 insts.	33,987	9,711	838	14,025	9,413
141 Tufts University	88	9	0	69	10
142 University of Delaware	88	61	1	18	8
143 Wichita State University	87	19	8	43	17
144 University of Arkansas	87	23	6	47	11
145 University of Missouri - Rolla	86	4	2	59	21
146 Duke University	85	26	2	42	15
147 University of Maryland - Baltimore Cnty	82	49	1	24	8
148 Washington University	79	27	1	45	6
149 Northeast Louisiana University	76	11	0	63	2
150 University of Kansas	76	19	5	32	20
Total, 1st 150 insts.	34,821	9,959	864	14,467	9,531
151 New Mexico Institute of Mining and Tech	76	0	0	68	8
152 Washington State University	74	21	1	33	12
153 University of Rochester	74	33	0	47	13
154 Adelphi University	72	30	0	26	17
155 California Institute of Technology	72	4	0	62	6
156 Oregon State University	69	6	0	47	11
157 Kansas State University	69	26	1	22	20
158 Rice University	68	9	0	34	25
159 Tulane University of Louisiana	68	32	3	12	21
160 The University of Alabama in Huntsville	68	17	1	44	6
Total, 1st 160 insts.	35,532	10,117	883	14,862	9,670
161 Bowling Green State University	67	43	0	7	17
162 University of South Alabama	66	55	2	6	3
163 St. Louis University	65	29	0	29	7
164 University of Missouri - Kansas City	65	22	11	22	10
165 University of Calif at Riverside	65	6	4	28	27
166 Loyola University of Chicago	64	18	1	29	16
167 Hahnemann University	63	14	0	39	10
168 US International University	61	20	5	14	22
169 Portland State University	61	16	6	36	3
170 Calif Sch of Prof Psych-Berkeley/Alamed	60	21	1	21	17
Total, 1st 170 insts.	36,169	10,361	913	15,093	9,802
171 Fordham University	58	18	0	7	33
172 Florida Institute of Technology	58	12	1	16	29
173 Texas Tech University	57	8	1	12	36
174 Iowa State University of Sci & Tech	57	32	1	13	11
175 Loma Linda University	57	19	0	29	9
176 East Tennessee State University	57	16	2	38	1
177 Andrews University	56	35	1	10	10
178 University of Utah	56	2	2	41	11
179 Yeshiva University	56	12	0	11	33
180 West Virginia University	56	30	0	21	5
Total, 1st 180 insts.	36,737	10,545	921	15,291	9,980

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-3. Minority graduate science and engineering students in
doctorate-granting institutions by racial/ethnic background,
ranked by total minority graduate science and engineering students: 1990

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Institutional ranking	Total minority students	Black non- Hispanic	American Indian/ Alaskan	Asian/ Pacific Islander	Hispanic
181 Claremont Univ Center & Graduate School	56	4	38	8	6
182 Georgetown University	55	4	0	31	20
183 South Dakota School of Mines and Tech	55	2	0	53	0
184 Catholic University of Puerto Rico	54	0	0	0	54
185 University of Southern Mississippi	53	29	2	20	2
186 St John's University	53	19	0	30	4
187 Baylor University	52	8	1	23	20
188 Brown University	52	9	1	24	18
189 Clemson University	52	29	2	14	7
190 Northeastern University	50	13	2	30	5
Total, 1st 190 insts.	37,269	10,662	967	15,524	10,116
191 Fuller Theological Seminary	50	8	1	28	13
192 Vanderbilt University	50	19	7	15	9
193 Calif Sch of Prof Psych - San Diego	49	9	4	11	25
194 Utah State University	49	8	10	19	12
195 Florida Atlantic University	47	13	1	9	24
196 University of Toledo	45	15	0	24	6
197 US Naval Postgraduate School	44	8	2	20	14
198 University of Idaho	44	10	0	27	6
199 Boston College	43	16	3	5	19
200 Union Institute	43	16	3	5	19
Total, 1st 200 insts.	37,733	10,777	995	15,708	10,253
201 University of Dayton	42	6	1	25	10
202 University of Notre Dame	42	7	0	15	20
203 Sam Houston State University	42	13	0	21	8
204 Illinois State University	41	19	0	15	7
205 University of Missouri - St Louis	41	17	1	12	11
206 North Dakota State University	41	6	1	28	6
207 University of Rhode Island	41	7	1	18	15
208 Antioch University	41	16	1	6	18
209 Rush University	40	15	0	20	5
210 University of Oregon	40	5	3	24	8
Total, 1st 210 insts.	38,144	10,888	1,003	15,892	10,361
211 Meharry Medical College	40	36	0	2	2
212 University of North Texas	39	20	1	1	17
213 Villanova University	39	19	2	16	2
214 Univ of Texas Hlth Sci Ctr San Antonio	37	7	1	10	19
215 The University of Alabama	37	28	1	5	3
216 University of Southwestern Louisiana	37	12	0	22	3
217 Lamar University	36	11	0	6	19
218 University of Northern Colorado	36	5	2	9	20
219 New York Medical College	35	17	0	12	6
220 Kent State University	35	26	1	4	4
Total, 1st 220 insts.	38,515	11,069	1,010	15,980	10,456
221 Medical University of South Carolina	34	2	0	32	0
222 CUNY Herbert H. Lehman College	34	12	0	10	12
223 The Fielding Institute	34	17	2	4	11
224 Medical College of Georgia	34	20	0	2	12
225 Calif Sch of Prof Psych - Fresno	34	8	1	12	13
226 Hofstra University	31	15	0	12	4
227 Pacific Grad School of Prof Psych	30	5	2	12	11
228 Lehigh University	29	8	0	14	7
229 University of Tennessee, Memphis	27	15	0	12	0
230 University of Vermont & St Agric Colleg	27	5	1	9	12
Total, 1st 230 insts.	38,829	11,176	1,016	16,099	10,538
231 Univ of North Carolina at Greensboro	26	26	0	0	0
232 University of Nevada at Reno	26	0	1	14	11
233 South Dakota State University	26	0	8	14	1
234 Miami University	25	6	1	12	3
235 Marquette University	25	5	0	11	9
236 Colorado School of Mines	24	5	0	2	17
237 Worcester Polytechnic Institute	24	3	0	19	2
238 Ohio University	23	13	2	4	4
239 Biola University	23	5	1	10	7
240 University of Wyoming	23	2	4	13	4
Total, 1st 240 insts.	39,073	11,246	1,033	16,198	10,596

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-3. Minority graduate science and engineering students in
doctorate-granting institutions by racial/ethnic background,
ranked by total minority graduate science and engineering students: 1990

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Institutional ranking	Total minority students	Black non- Hispanic	American/ Indian/ Alaskan	Asian/ Pacific Islander	Hispanic
241 East Carolina University	23	15	0	5	3
242 East Texas State University	22	8	3	6	5
243 The Wright Institute	21	3	0	1	17
244 Univ of Med and Dent of New Jersey	21	3	0	16	2
245 Xavier University	21	14	1	1	1
246 Louisiana Tech University	20	4	1	8	7
247 Univ of Texas SW Medical Ctr at Dallas	20	6	0	13	1
248 SUNY - Health Sci Ctr at Brooklyn	20	9	2	3	6
249 Forest Institute of Prof Psych	20	16	0	3	1
250 Eastern Virginia Medical School	20	16	0	3	1
Total, 1st 250 insts.	39,282	11,338	1,043	16,269	10,632
251 Clark University	20	11	2	0	7
252 Dartmouth College	20	2	2	12	4
253 University of Nebraska - Omaha	20	9	0	10	1
254 Ponce School of Medicine	19	0	0	0	19
255 Duquesne University	19	9	1	4	5
256 Air Force Institute of Technology	17	15	0	0	2
257 Indiana State University	17	9	0	6	2
258 Univ of Texas Med Branch at Galveston	17	4	1	7	5
259 College of William and Mary	17	9	0	3	5
260 Indiana University of Pennsylvania	17	11	1	3	2
Total, 1st 260 insts.	39,465	11,417	1,050	16,314	10,684
261 Texas Christian University	17	2	0	2	13
262 Uniformed Serv Univ of the Hlth Science	17	0	0	10	7
263 University of Alaska at Fairbanks	16	0	2	12	2
264 University of Tulsa	16	8	1	5	2
265 Central Michigan University	16	1	0	12	3
266 Baylor College of Medicine	15	6	2	6	1
267 University of South Dakota	15	1	0	13	1
268 Medical College of Wisconsin	15	2	0	9	4
269 Brandeis University	14	2	5	4	3
270 University of Montana	14	2	5	4	3
Total, 1st 270 insts.	39,620	11,446	1,067	16,391	10,716
271 Chicago School of Prof Psych	14	3	0	5	6
272 University of North Dakota	14	2	3	9	0
273 SUNY - Coll of Env Science and Forestry	14	3	2	3	6
274 Idaho State University	13	1	1	9	2
275 Ball State University	13	5	0	3	5
276 University of the Pacific	12	0	2	8	2
277 Marshall University	12	9	0	0	3
278 Rockefeller University	11	0	0	8	3
279 University of Maine	11	0	0	6	5
280 Wesleyan University	10	1	0	7	2
Total, 1st 280 insts.	39,744	11,475	1,075	16,452	10,742
281 Montana State University	10	0	4	5	1
282 Seton Hall University	10	5	0	3	2
283 CUNY Mt. Sinai Sch of Medicine	10	2	0	0	8
284 Tennessee Technological University	10	8	1	0	1
285 University of Health Sciences (Chicago)	10	2	0	8	0
286 University of Maryland Eastern Shore	10	10	0	0	0
287 University of New Hampshire	9	0	1	7	1
288 Stephen F. Austin State University	9	3	0	3	3
289 Brigham Young University	9	1	0	0	8
290 University of Arkansas - Med Sci Campus	9	8	0	1	0
Total, 1st 290 insts.	39,840	11,514	1,081	16,487	10,758
291 Mercer University	8	6	0	1	1
292 SUNY - Health Sci Ctr at Syracuse	8	2	0	6	0
293 University of Nebraska Medical Center	8	1	0	6	1
294 Union College(NY)	8	4	0	0	4
295 Wake Forest University	8	5	3	0	0
296 University of Northern Iowa	8	8	0	0	0
297 Oregon Grad Inst of Science & Technolog	7	0	0	7	0
298 Thomas Jefferson University	7	1	2	0	4
299 Michigan Technological University	6	1	0	0	5
300 Oregon Health Sciences University	6	0	0	3	3
Total, 1st 300 insts.	39,914	11,544	1,086	16,519	10,765

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-3. Minority graduate science and engineering students in
doctorate-granting institutions by racial/ethnic background,
ranked by total minority graduate science and engineering students: 1990

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Institutional ranking	Total minority students	Black non- Hispanic	American Indian/ Alaskan	Asian/ Pacific Islander	Hispanic
301 Baylor College of Dentistry	5	0	1	2	2
302 Mass College of Pharmacy/Allied Health	5	2	0	1	2
303 The Medical College of Pennsylvania	5	2	0	3	0
304 Medical College of Ohio at Toledo	4	1	0	1	2
305 Creighton University	4	3	0	1	0
306 Philadelphia Coll of Pharmacy and Sci	4	2	0	2	0
307 Alfred University	3	0	0	0	1
308 Clarkson University	3	0	1	1	1
309 Albany Medical Center Graduate School	3	0	0	2	1
310 Rand Graduate School of Policy Studies	3	1	0	2	0
Total, 1st 310 insts.	39,953	11,557	1,088	16,534	10,774
311 Maharishi International University	2	2	0	0	0
312 Spalding University	2	2	0	0	0
313 SUNY State College of Optometry	2	0	0	1	1
314 Institute of Paper Science & Technology	2	1	0	1	0
315 Mayo Graduate School	1	0	0	1	0
316 Univ. of Osteopathic Med & Health Sci	1	1	0	0	0
317 Bryn Mawr College	1	1	0	0	0
318 Emerson College	1	1	0	0	0
319 Texas College of Osteopathic Medicine	0	0	0	0	0
320 University of New England	0	0	0	0	0
Total, 1st 320 insts.	39,965	11,565	1,088	16,537	10,775
321 West Virginia Sch of Osteopathic Med	0	0	0	0	0
322 Chicago Coll of Osteo Medicine	0	0	0	0	0
323 Phila College of Osteopathic Medicine	0	0	0	0	0
324 California Institute of Integral Studie	0	0	0	0	0
325 Providence College	0	0	0	0	0
326 Univ of Texas MD Anderson Cancer Center	0	0	0	0	0
327 Institute of Textile Technology	0	0	0	0	0
328 Morehouse School of Medicine	0	0	0	0	0
329 Smith College	0	0	0	0	0
330 NE Ohio Univ Med School	0	0	0	0	0
Total, 1st 330 insts.	39,965	11,565	1,088	16,537	10,775
331 Woods Hole Oceanographic Institution	0	0	0	0	0
332 Univ of Health Sciences (Kansas City)	0	0	0	0	0
333 Kirksville College of Osteopathic Med	0	0	0	0	0
334 Charles R. Drew Univ of Medicine & Sci	0	0	0	0	0
Total, 1st 334 insts.	39,965	11,565	1,088	16,537	10,775

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students
and Postdoctorates in Science and Engineering

Table F-4. Graduate science and engineering students without U.S. citizenship by enrollment status and postdoctoral appointees without U.S. citizenship in doctorate-granting institutions, ranked by non-U.S. citizen graduate science and engineering students: 1990

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Institutional ranking	Non-U.S. graduate students	Non-U.S. full-time students	Non-U.S. part-time students	Non-U.S. postdoc- toral appointees
Total, all institutions	100,533	87,163	13,370	14,678
1 Ohio State University	1,829	1,760	69	140
2 University of Wisconsin - Madison	1,824	1,770	54	174
3 Texas A & M University	1,735	1,603	132	137
4 University of Southern California	1,713	1,555	158	262
5 Univ of Texas at Austin	1,694	1,559	135	171
6 University of Illinois at Urbana	1,656	1,651	5	101
7 University of Michigan	1,596	1,503	93	227
8 Purdue University	1,515	1,483	32	156
9 University of Minnesota	1,505	1,425	80	152
10 University of Calif at Berkeley	1,445	1,445	0	378
Total, 1st 10 insts.	16,512	15,754	758	1,898
11 University of Maryland - College Park	1,398	1,051	347	0
12 Massachusetts Institute of Technology	1,379	1,357	16	170
13 Cornell University	1,345	1,345	0	237
14 Pennsylvania State University	1,291	1,098	193	67
15 University of Calif at Los Angeles	1,231	1,228	3	302
16 Iowa State University of Sci & Tech	1,227	1,107	120	61
17 Michigan State University	1,212	1,025	187	109
18 University of Florida	1,090	815	275	172
19 Rutgers the State University	1,083	814	269	98
20 University of Arizona	1,075	957	118	125
Total, 1st 20 insts.	28,837	26,551	2,286	3,219
21 Columbia University Main Division	1,061	963	98	215
22 Wayne State University	1,031	732	299	78
23 Arizona State University	1,027	755	272	28
24 Stanford University	1,023	1,012	11	324
25 George Washington University	1,016	506	510	7
26 SUNY - Buffalo	1,007	822	185	175
27 University of Massachusetts	978	492	486	99
28 University of Illinois at Chicago	959	794	165	93
29 Georgia Institute of Technology	909	760	149	29
30 University of Pennsylvania	899	882	17	257
Total, 1st 30 insts.	38,747	34,269	4,478	4,524
31 Harvard University	899	878	21	1,065
32 University of Iowa	883	810	73	74
33 Virginia Polytechnic Inst and State Uni	879	803	76	36
34 SUNY - Stony Brook	836	716	120	134
35 North Carolina State Univ at Raleigh	830	795	35	85
36 University of Pittsburgh	822	702	120	115
37 Louisiana State University System	789	736	53	96
38 University of Cincinnati	785	742	43	61
39 New Jersey Institute of Technology	775	347	428	0
40 University of Washington	764	671	93	252
Total, 1st 40 insts.	47,009	41,469	5,540	6,442
41 University of Hawaii at Manoa	756	711	45	40
42 Oregon State University	755	726	29	34
43 University of Missouri - Columbia	746	529	217	27
44 CUNY Graduate School and Univ Center	745	697	48	32
45 University of Calif at Davis	723	712	11	125
46 Syracuse University	719	518	201	34
47 University of Oklahoma	704	613	91	72
48 Indiana University	697	653	44	143
49 Oklahoma State University	692	292	400	15
50 University of Connecticut	683	629	54	59
Total, 1st 50 insts.	54,229	47,549	6,680	7,023
51 Northeastern University	670	630	40	19
52 University of Chicago	668	668	0	168
53 Boston University	650	605	45	8
54 Northwestern University	629	621	8	127
55 Kansas State University	619	566	53	46
56 Illinois Institute of Technology	618	396	222	13
57 New York University	602	465	137	100
58 Case Western Reserve University	582	493	89	165
59 University of Kansas	547	346	201	111
60 Auburn University	537	357	180	18
Total, 1st 60 insts.	60,351	52,696	7,655	7,798

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-4. Graduate science and engineering students without U.S. citizenship by enrollment status and postdoctoral appointees without U.S. citizenship in doctorate-granting institutions, ranked by non-U.S. citizen graduate science and engineering students: 1990

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Institutional ranking	Non-U.S. graduate students	Non-U.S. full-time students	Non-U.S. part-time students	Non-U.S. postdoctoral appointees
61 University of Utah	535	487	48	88
62 Univ of Texas at Arlington	533	461	72	30
63 University of Tennessee at Knoxville	508	415	93	81
64 Carnegie-Mellon University	506	491	15	50
65 University of Kentucky	501	487	14	81
66 Utah State University	501	496	5	10
67 Rensselaer Polytechnic Institute	494	488	6	49
68 Clemson University	493	385	108	9
69 University of Nebraska - Lincoln	491	454	37	34
70 Princeton University	491	491	0	115
Total, 1st 70 insts.	65,404	57,351	8,053	8,345
71 University of Georgia	491	456	35	63
72 Yale University	487	479	8	396
73 University of Rochester	480	472	8	117
74 Southern Illinois Univ at Carbondale	476	417	59	21
75 Ohio University	470	422	48	5
76 Johns Hopkins University	466	431	35	303
77 University of Houston-University Park	465	310	155	157
78 University of Lowell	452	452	0	8
79 California Institute of Technology	444	444	0	153
80 University of Calif at San Diego	435	428	7	288
Total, 1st 80 insts.	70,070	61,662	8,408	9,856
81 University of South Carolina	429	408	21	26
82 Univ of North Carolina at Chapel Hill	426	398	28	134
83 Texas Tech University	424	383	41	28
84 US Naval Postgraduate School	417	417	0	6
85 University of Delaware	405	367	38	36
86 University of Calif at Santa Barbara	404	404	0	108
87 University of Akron	393	359	34	32
88 University of Miami	391	345	46	53
89 Temple University	391	321	70	60
90 The American University	387	259	128	0
Total, 1st 90 insts.	74,137	65,323	8,814	10,339
91 CUNY City College	375	133	242	1
92 Washington State University	375	357	18	38
93 University of Colorado	375	350	25	74
94 West Virginia University	375	311	64	34
95 Colorado State University	373	260	113	80
96 Santa Clara University	369	105	264	2
97 SUNY - Albany	363	300	63	0
98 Tulane University of Louisiana	360	352	8	18
99 New York Institute of Technology	357	231	126	0
100 Florida State University	346	319	27	58
Total, 1st 100 insts.	77,805	68,041	9,764	10,644
101 Washington University	342	332	10	135
102 Mississippi State University	322	301	21	22
103 Drexel University	320	195	125	22
104 University of Denver	318	282	36	14
105 The University of Alabama	317	310	7	23
106 Western Michigan University	314	207	107	0
107 Brown University	314	308	6	42
108 Rice University	313	306	7	62
109 University of Wisconsin - Milwaukee	307	224	83	19
110 University of Missouri - Rolla	304	267	37	1
Total, 1st 110 insts.	80,976	70,773	10,203	10,984
111 Howard University	301	161	140	9
112 SUNY - Binghamton	300	212	88	0
113 University of Notre Dame	300	292	8	39
114 University of Toledo	300	260	40	26
115 University of Rhode Island	299	283	16	28
116 Vanderbilt University	298	289	9	121
117 The University of Alabama at Birmingham	291	272	19	118
118 University of North Texas	291	256	35	7
119 Northern Illinois University	280	248	32	10
120 University of Calif at Irvine	275	269	6	88
Total, 1st 120 insts.	83,911	73,315	10,596	11,430

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-4. Graduate science and engineering students without U.S. citizenship by enrollment status and postdoctoral appointees without U.S. citizenship in doctorate-granting institutions, ranked by non-U.S. citizen graduate science and engineering students: 1990

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Institutional ranking	Non-U.S. graduate students	Non-U.S. full-time students	Non-U.S. part-time students	Non-U.S. postdoc. appointees
121 Lehigh University	268	248	20	35
122 University of Southwestern Louisiana	268	236	32	2
123 Florida Atlantic University	266	188	78	0
124 University of Mississippi	265	265	0	36
125 George Mason University	261	128	133	0
126 University of Idaho	259	190	69	24
127 Duke University	256	252	4	106
128 Florida Institute of Technology	254	174	80	7
129 University of New Mexico	250	217	33	30
130 Marquette University	250	227	23	6
Total, 1st 130 insts.	86,508	75,440	11,068	11,676
131 University of Oregon	249	230	19	19
132 University of Maryland - Baltimore Cnty	246	216	30	9
133 University of South Florida	246	219	27	41
134 Univ of Texas at Dallas	234	213	21	0
135 University of Virginia	226	224	2	100
136 Univ of Texas at El Paso	219	192	27	2
137 Old Dominion University	213	170	43	1
138 Tufts University	209	193	16	108
139 Polytechnic University	208	150	58	13
140 University of Arkansas	205	198	7	12
Total, 1st 140 insts.	88,763	77,445	11,318	11,981
141 Columbia University Teachers College	204	77	127	0
142 Kent State University	200	171	29	0
143 Michigan Technological University	198	192	6	0
144 New Mexico State University	188	160	28	16
145 Lamar University	187	174	13	5
146 University of Calif at Riverside	186	184	2	68
147 Wichita State University	186	130	56	0
148 North Dakota State University	185	173	12	9
149 Brandeis University	185	184	1	50
150 Colorado School of Mines	183	178	5	0
Total, 1st 150 insts.	90,665	79,068	11,597	12,129
151 Georgetown University	183	163	20	53
152 Portland State University	176	115	61	0
153 Clarkson University	174	174	0	25
154 Stevens Institute of Technology	174	152	22	7
155 New School for Social Research	172	91	81	0
156 Emory University	163	138	25	66
157 University of Detroit	163	79	84	0
158 Worcester Polytechnic Institute	161	146	15	9
159 University of Wyoming	158	152	6	15
160 University of Maine	157	155	2	2
Total, 1st 160 insts.	92,346	80,433	11,913	12,306
161 Southern Methodist University	152	61	91	12
162 University of Nevada at Reno	149	89	60	25
163 SUNY - Coll of Env Science and Forestry	148	102	46	8
164 Univ of Texas Hlth Sci Ctr at Houston	145	140	5	0
165 Catholic University of America	143	71	72	10
166 Bowling Green State University	140	123	17	18
167 The University of Alabama in Huntsville	137	132	5	5
168 University of Central Florida	132	88	44	6
169 Wright State University	131	80	51	6
170 Virginia Commonwealth University	129	124	5	56
Total, 1st 170 insts.	93,752	81,443	12,309	12,448
171 St John's University	129	71	58	1
172 University of Louisville	129	99	30	21
173 Long Island University	128	80	48	0
174 University of Maryland - Balt Prof Sch	126	101	25	44
175 Florida International University	124	73	51	1
176 University of Missouri - Kansas City	123	64	59	13
177 San Diego State University	122	82	40	9
178 Montana State University	117	116	1	12
179 Memphis State University	115	94	21	4
180 South Dakota State University	114	96	18	3
Total, 1st 180 insts.	94,979	82,319	12,660	12,556

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-4. Graduate science and engineering students without U.S. citizenship by enrollment status and postdoctoral appointees without U.S. citizenship in doctorate-granting institutions, ranked by non-U.S. citizen graduate science and engineering students: 1990

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Institutional ranking	Non-U.S. graduate students	Non-U.S. full-time students	Non-U.S. part-time students	Non-U.S. postdoc- total appointees
181 East Texas State University	112	85	27	0
182 University of Puerto Rico	112	111	1	0
183 Baylor College of Medicine	108	108	0	122
184 De Paul University	108	85	23	0
185 South Dakota School of Mines and Tech	106	91	15	0
186 Clark Atlanta University	105	64	41	3
187 Ball State University	105	93	12	0
188 University of Calif at Santa Cruz	103	103	0	10
189 University of Alaska at Fairbanks	102	79	23	1
190 Brigham Young University	102	57	45	28
Total, 1st 190 insts.	96,042	83,195	12,847	12,720
191 Loyola University of Chicago	101	86	15	12
192 University of New Hampshire	100	98	2	1
193 Louisiana Tech University	99	94	5	0
194 Dartmouth College	98	98	0	29
195 University of Vermont & St Agric Colleg	97	91	6	34
196 Boston College	96	86	9	15
197 University of Tulsa	93	67	26	0
198 Tennessee Technological University	92	75	17	0
199 Univ of Med and Dent of New Jersey	90	87	3	97
200 Indiana State University	89	79	10	0
Total, 1st 200 insts.	96,996	84,056	12,940	12,908
201 University of South Alabama	87	75	12	13
202 University of Montana	87	72	15	2
203 University of Calif at San Francisco	84	84	0	402
204 Clark University	83	80	3	9
205 Villanova University	82	69	13	1
206 Univ of Texas Med Branch at Galveston	80	80	0	70
207 Claremont Univ Center & Graduate School	78	47	31	0
208 Fordham University	75	59	16	0
209 Fairleigh Dickinson University	74	59	15	0
210 Oregon Grad Inst of Science & Technolog	73	73	0	5
Total, 1st 210 insts.	97,799	84,754	13,045	13,410
211 Cleveland State University	73	55	18	1
212 Illinois State University	72	59	13	2
213 Yeshiva University	66	66	0	129
214 Loma Linda University	66	56	10	18
215 Georgia State University	63	59	4	15
216 SUNY - Health Sci Ctr at Brooklyn	62	62	0	23
217 Univ of Texas SW Medical Ctr at Dallas	62	62	0	137
218 College of William and Mary	62	61	1	5
219 St. Louis University	60	53	7	29
220 Medical College of Ohio at Toledo	58	56	2	26
Total, 1st 220 insts.	98,443	85,343	13,100	13,795
221 CUNY Hunter College	58	42	16	1
222 University of Southern Mississippi	57	55	2	8
223 Texas Woman's University	56	31	25	0
224 Miami University	51	49	2	4
225 Sam Houston State University	49	48	1	0
226 University of Tennessee, Memphis	48	47	1	42
227 University of Nebraska Medical Center	46	39	7	27
228 Rockefeller University	44	44	0	125
229 Univ of Texas Hlth Sci Ctr San Antonio	44	44	0	89
230 University of North Dakota	43	41	2	1
Total, 1st 230 insts.	98,939	85,783	13,156	14,092
231 CUNY Mt. Sinai Sch of Medicine	43	43	0	0
232 Duquesne University	42	26	16	0
233 University of Dayton	41	25	16	1
234 New Mexico Institute of Mining and Tech	41	41	0	0
235 Wesleyan University	41	41	0	2
236 Oakland University	41	30	11	0
237 Northern Arizona University	40	37	3	0
238 Baylor University	39	38	1	10
239 Calif Sch of Prof Psych-Berkeley/Alamed	39	34	5	0
240 University of Puerto Rico - Rio Piedras	38	35	3	7
Total, 1st 240 insts.	99,344	86,133	13,211	14,112

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-4. Graduate science and engineering students without U.S. citizenship by enrollment status and postdoctoral appointees without U.S. citizenship in doctorate-granting institutions, ranked by non-U.S. citizen graduate science and engineering students: 1990

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Institutional ranking	Non-U.S. graduate students	Non-U.S. full-time students	Non-U.S. part-time students	Non-U.S. postdoc- total appointees
241 Alfred University	36	30	6	0
242 New York Medical College	36	17	19	15
243 US International University	36	17	0	0
244 Maharishi International University	36	36	0	0
245 University of Maryland Eastern Shore	34	24	10	0
246 Air Force Institute of Technology	34	34	0	0
247 University of Missouri - St Louis	33	27	6	8
248 Wake Forest University	33	30	3	27
249 Uniformed Serv Univ of the Hlth Science	33	33	0	8
250 Union Institute	32	32	0	0
Total, 1st 250 insts.	99,687	86,419	13,268	14,170
251 Oregon Health Sciences University	31	31	0	11
252 Andrews University	31	29	2	1
253 Medical College of Georgia	29	28	1	47
254 Central Michigan University	29	29	0	2
255 Mass College of Pharmacy/Allied Health	28	27	1	1
256 University of Northern Colorado	28	22	6	0
257 Hahnemann University	27	23	4	10
258 University of the Pacific	27	26	1	1
259 Fuller Theological Seminary	25	19	6	0
260 Adelphi University	25	20	5	1
Total, 1st 260 insts.	99,967	86,673	13,294	14,244
261 Eastern Virginia Medical School	23	23	0	0
262 Rush University	23	23	0	19
263 Idaho State University	23	20	3	0
264 Medical University of South Carolina	23	23	0	42
265 East Carolina University	22	20	2	9
266 Mayo Graduate School	21	21	0	64
267 University of South Dakota	21	20	1	0
268 Texas Christian University	20	18	2	4
269 University of Arkansas - Med Sci Campus	20	20	0	5
270 University of Health Sciences (Chicago)	20	20	0	11
Total, 1st 270 insts.	100,183	86,881	13,302	14,398
271 Indiana University of Pennsylvania	18	17	1	0
272 Thomas Jefferson University	18	16	2	64
273 The Medical College of Pennsylvania	18	17	1	15
274 Hofstra University	18	6	12	0
275 Medical College of Wisconsin	18	18	0	48
276 Marshall University	17	16	1	0
277 SUNY - Health Sci Ctr at Syracuse	15	15	0	11
278 Philadelphia Coll of Pharmacy and Sci	14	14	0	0
279 Antioch University	14	14	0	0
280 CUNY Herbert H. Lehman College	13	5	8	0
Total, 1st 280 insts.	100,346	87,019	13,327	14,536
281 Calif Sch of Prof Psych - Los Angeles	12	12	0	0
282 SUNY State College of Optometry	12	12	0	0
283 Pace University	12	12	0	0
284 Biola University	11	11	0	0
285 Florida A & M University	10	7	3	2
286 Calif Sch of Prof Psych - Fresno	10	9	1	0
287 Union College(NY)	10	1	9	0
288 Stephen F. Austin State University	9	9	0	0
289 University of Nebraska - Omaha	9	7	2	0
290 Creighton University	8	8	0	3
Total, 1st 290 insts.	100,449	87,107	13,342	14,541
291 Calif Sch of Prof Psych - San Diego	8	7	1	0
292 Rand Graduate School of Policy Studies	8	8	0	0
293 Bryn Mawr College	8	0	8	0
294 Caribbean Center for Advanced Studies	7	7	0	0
295 Albany Medical Center Graduate School	6	6	0	1
296 Meharry Medical College	5	5	0	5
297 Nova University	5	1	4	0
298 Mercer University	4	4	0	0
299 Golden Gate University	4	4	0	0
300 Chicago School of Prof Psych	4	2	2	0
Total, 1st 300 insts.	100,508	87,151	13,357	14,547

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-4. Graduate science and engineering students without U.S. citizenship by enrollment status and postdoctoral appointees without U.S. citizenship in doctorate-granting institutions, ranked by non-U.S. citizen graduate science and engineering students: 1990

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Institutional ranking	Non-U.S. graduate students	Non-U.S. full-time students	Non-U.S. part-time students	Non-U.S. postdoc. total appointees
301 Emerson College	4	1	3	0
302 Seton Hall University	4	0	4	0
303 Forest Institute of Prof Psych	2	1	1	0
304 Xavier University	3	1	2	3
305 Baylor College of Dentistry	3	2	1	0
306 University of Northern Iowa	2	2	0	0
307 Institute of Paper Science & Technology	2	1	1	1
308 University of Puerto Rico Med Sci Campu	2	2	0	0
309 Smith College	1	1	0	0
310 Northeast Louisiana University	1	0	1	0
Total, 1st 310 insts.	100,533	87,163	13,370	14,551
311 Univ of North Carolina at Greensboro	0	0	0	0
312 The Wright Institute	0	0	0	0
313 Chicago Coll of Osteo Medicine	0	0	0	0
314 Phila College of Osteopathic Medicine	0	0	0	9
315 University of New England	0	0	0	0
316 West Virginia Sch of Osteopathic Med	0	0	0	0
317 Providence College	0	0	0	0
318 Spalding University	0	0	0	0
319 Texas College of Osteopathic Medicine	0	0	0	6
320 Univ. of Osteopathic Med & Health Sci	0	0	0	0
Total, 1st 320 insts.	100,533	87,163	13,370	14,566
321 East Tennessee State University	0	0	0	0
322 NE Ohio Univ Med School	0	0	0	0
323 Univ of Health Sciences (Kansas City)	0	0	0	0
324 Univ of Texas MD Anderson Cancer Center	0	0	0	105
325 Kirksville College of Osteopathic Med	0	0	0	0
326 The Fielding Institute	0	0	0	0
327 Institute of Textile Technology	0	0	0	0
328 Catholic University of Puerto Rico	0	0	0	0
329 Pacific Grad School of Prof Psych	0	0	0	0
330 Ponce School of Medicine	0	0	0	0
Total, 1st 330 insts.	100,533	87,163	13,370	14,671
331 Woods Hole Oceanographic Institution	0	0	0	7
332 California Institute of Integral Studie	0	0	0	0
333 Morehouse School of Medicine	0	0	0	0
334 Charles R. Drew Univ of Medicine & Sci	0	0	0	0
Total, 1st 334 insts.	100,533	87,163	13,370	14,678

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table F-5. Full-time graduate science and engineering students in
doctorate-granting institutions by source of major support,
ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Federal Total	Non-Federal				
			Non- Federal total	Institu- tional 1/	Other U.S. support	Foreign support 2/	Self, loans & family
Total, all institutions	275,262	58,516	144,369	118,349	19,568	6,452	72,377
1 University of Calif at Berkeley	5,274	1,779	1,838	1,490	325	23	1,657
2 University of Wisconsin - Madison	5,099	1,595	2,272	1,625	501	146	1,232
3 University of Illinois at Urbana	4,805	1,705	2,162	1,108	46	8	938
4 University of Michigan	4,657	1,026	2,473	1,964	317	192	1,158
5 University of Minnesota	4,648	1,089	2,691	2,129	465	97	868
6 Ohio State University	4,474	695	2,913	2,478	287	148	866
7 University of Calif at Los Angeles	4,444	1,247	1,700	1,356	296	48	1,497
8 Massachusetts Institute of Technology	4,156	1,751	2,035	1,989	849	197	370
9 Texas A & M University	4,145	632	2,558	2,150	321	87	955
10 Stanford University	3,960	1,273	1,936	1,064	715	157	751
Total, 1st 10 insts.	45,662	12,792	22,578	17,353	4,122	1,103	10,292
11 Univ of Texas at Austin	3,914	589	2,202	1,836	308	58	1,123
12 Purdue University	3,568	812	2,184	1,785	299	100	572
13 University of Southern California	3,549	750	1,645	1,108	222	315	1,154
14 Cornell University	3,408	1,046	1,931	1,367	420	144	431
15 University of Washington	3,384	1,240	1,423	1,005	388	30	721
16 Pennsylvania State University	3,101	782	1,802	1,367	363	72	517
17 Harvard University	3,098	970	1,464	1,166	138	160	664
18 University of Colorado	3,073	851	1,180	843	117	220	1,062
19 University of Arizona	2,792	625	1,620	1,244	258	118	547
20 Indiana University	2,706	447	1,374	1,212	118	44	885
Total, 1st 20 insts.	78,255	20,904	39,403	30,286	6,753	2,364	17,948
21 Univ of North Carolina at Chapel Hill	2,607	808	1,183	1,007	147	29	616
22 University of Calif at Davis	2,597	437	1,669	1,208	394	67	491
23 Michigan State University	2,527	487	1,607	1,327	195	85	433
24 North Carolina State Univ at Raleigh	2,451	585	1,441	1,137	236	68	425
25 Virginia Polytechnic Inst and State Uni	2,435	391	1,586	1,261	283	42	458
26 University of Florida	2,419	512	1,646	1,231	406	9	261
27 University of Maryland - College Park	2,372	625	1,312	1,155	125	32	435
28 University of Pennsylvania	2,313	753	915	704	135	73	648
29 Iowa State University of Sci & Tech	2,272	468	1,603	1,149	341	113	201
30 Columbia University Main Division	2,245	672	956	756	172	28	617
Total, 1st 30 insts.	102,493	26,642	53,318	41,221	9,187	2,910	22,533
31 Georgia Institute of Technology	2,220	409	1,243	942	236	65	568
32 Rutgers State University	2,181	234	1,556	1,283	216	57	391
33 SUNY - Buffalo	2,178	467	946	813	105	28	765
34 University of Pittsburgh	2,174	440	1,256	1,030	81	145	479
35 Louisiana State University System	2,039	285	1,355	1,192	113	50	399
36 University of Chicago	2,016	267	1,404	1,334	49	21	345
37 University of Illinois at Chicago	1,936	318	1,140	1,005	124	11	478
38 CUNY Graduate School and Univ Center	1,851	298	833	784	45	4	720
39 Arizona State University	1,842	540	983	866	114	3	319
40 Northwestern University	1,840	523	858	611	202	45	459
Total, 1st 40 insts.	122,770	30,423	64,892	51,081	10,472	3,339	27,455
41 University of Iowa	1,840	354	1,066	940	94	32	420
42 University of Calif at San Diego	1,814	665	793	657	90	46	356
43 Yale University	1,781	657	817	658	120	39	307
44 University of Virginia	1,761	455	941	808	126	7	365
45 University of Connecticut	1,753	242	1,100	1,003	90	7	411
46 University of Cincinnati	1,752	282	1,388	1,222	145	21	82
47 Boston University	1,725	190	886	779	75	32	66
48 Oregon State University	1,657	481	849	620	125	104	327
49 University of Hawaii at Manoa	1,655	531	736	599	84	53	388
50 University of Oklahoma	1,598	271	811	712	85	14	516
Total, 1st 50 insts.	140,106	34,551	74,279	59,079	11,506	3,694	31,276
51 Wayne State University	1,583	157	841	621	196	24	585
52 SUNY - Stony Brook	1,581	484	886	819	44	23	211
53 University of Tennessee at Knoxville	1,555	250	887	724	161	2	418
54 Johns Hopkins University	1,520	549	803	658	79	66	168
55 University of Massachusetts	1,512	371	899	774	124	1	242
56 University of Calif at Santa Barbara	1,505	358	852	750	82	20	295
57 University of Kentucky	1,485	287	971	763	163	45	227
58 George Washington University	1,472	75	297	273	21	3	1,100
59 New York University	1,454	251	770	683	60	27	433
60 University of Georgia	1,449	243	934	833	66	35	272
Total, 1st 60 insts.	155,222	37,576	82,419	65,977	12,502	3,940	35,227

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-5. Full-time graduate science and engineering students in
doctorate-granting institutions by source of major support,
ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Federal Total	Non-Federal				
			Non- Federal total	Institu- tional 1/	Other U.S. support	Foreign support 2/	Self, loans, & family
61 University of Utah	1,413	466	618	449	157	12	331
62 Colorado State University	1,399	347	662	470	15	177	390
63 US Naval Postgraduate School	1,361	1,136	225	0	0	225	0
64 Princeton University	1,334	1,467	841	670	133	28	26
65 Rensselaer Polytechnic Institute	1,314	317	751	510	196	45	246
66 Kansas State University	1,307	144	912	696	121	95	251
67 Duke University	1,290	375	753	625	89	39	162
68 Syracuse University	1,290	162	690	583	69	38	438
69 University of Missouri - Columbia	1,289	205	855	713	78	64	229
70 University of Rochester	1,271	465	707	612	84	11	99
Total, 1st 70 insts.	168,490	41,658	89,433	71,305	13,444	4,684	37,399
71 University of Nebraska - Lincoln	1,258	166	777	653	83	41	315
72 Carnegie-Mellon University	1,252	478	695	459	188	48	79
73 Case Western Reserve University	1,236	394	500	285	160	55	342
74 University of South Carolina	1,221	295	667	593	59	15	259
75 Washington University	1,204	383	625	534	72	19	196
76 University of Calif at Irvine	1,196	318	677	586	77	14	201
77 Southern Illinois Univ at Carbondale	1,170	131	841	778	29	34	198
78 University of New Mexico	1,134	243	506	439	51	16	385
79 Northeastern University	1,131	63	598	530	44	24	470
80 Washington State University	1,130	164	833	680	121	32	133
Total, 1st 80 insts.	180,422	44,293	96,152	76,842	14,328	4,982	39,977
81 Clemson University	1,123	154	850	677	173	0	119
82 California Institute of Technology	1,088	535	539	464	59	16	14
83 University of Houston-University Park	1,082	121	612	559	53	0	349
84 San Diego State University	1,079	201	306	269	19	18	572
85 Florida State University	1,076	263	536	506	17	13	277
86 Temple University	1,071	150	602	555	44	3	319
87 Virginia Commonwealth University	1,071	182	457	393	34	30	432
88 University of Calif at San Francisco	1,069	519	223	147	61	15	327
89 The University of Alabama at Birmingham	1,055	395	421	383	25	13	239
90 Utah State University	1,047	187	583	439	85	59	277
Total, 1st 90 insts.	191,183	47,000	101,281	81,234	14,898	5,149	42,902
91 University of South Florida	1,038	192	525	458	60	7	321
92 West Virginia University	1,037	181	538	462	76	0	318
93 University of Delaware	1,024	194	655	518	118	19	175
94 University of Kansas	1,012	128	416	357	58	1	468
95 Texas Tech University	984	128	584	444	118	22	272
96 University of Wisconsin - Milwaukee	965	115	514	479	30	5	336
97 Vanderbilt University	925	297	556	426	98	32	72
98 University of Akron	910	47	804	705	81	18	59
99 The American University	899	69	306	243	23	40	524
100 Mississippi State University	898	195	475	348	59	68	228
Total, 1st 100 insts.	200,875	48,546	106,654	85,674	15,619	5,361	45,675
101 University of Miami	897	190	517	432	55	30	190
102 Auburn University	895	196	556	472	56	28	143
103 Univ of Texas at Arlington	892	89	498	368	125	5	305
104 University of North Texas	888	100	367	271	90	6	421
105 University of Rhode Island	872	166	420	319	72	29	286
106 Antioch University	861	0	0	0	0	0	861
107 New Jersey Institute of Technology	857	20	283	275	7	1	554
108 Ohio University	851	7	778	690	78	10	66
109 Tulane University of Louisiana	828	81	584	432	8	144	163
110 Oklahoma State University	826	174	604	510	81	13	48
Total, 1st 110 insts.	209,542	49,569	111,261	89,443	16,191	5,627	48,712
111 Tufts University	820	179	398	283	107	8	243
112 SUNY - Albany	815	78	486	462	24	0	251
113 University of Puerto Rico - Rio Piedras	812	88	228	225	3	0	496
114 University of Denver	809	90	357	281	50	26	362
115 University of Lowell	791	57	452	418	32	2	282
116 Emory University	783	83	423	401	11	11	277
117 University of Notre Dame	773	133	560	456	97	7	80
118 Northern Illinois University	761	69	550	516	33	1	142
119 Rice University	755	222	415	264	141	10	118
120 University of Arkansas	729	78	509	413	78	18	142
Total, 1st 120 insts.	217,390	50,646	115,639	93,162	16,767	5,710	51,105

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-5. Full-time graduate science and engineering students in
doctorate-granting institutions by source of major support,
ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Federal Total	Non-Federal				
			Non- Federal total	Institu- tional 1/	Other U.S. support	Foreign support 2/	Self, loans, & family
121 Brown University	725	252	366	304	48	14	107
122 University of Oregon	715	190	308	279	27	2	217
123 Columbia University Teachers College	713	35	235	226	9	0	443
124 The University of Alabama	695	64	517	472	41	4	114
125 University of Calif at Riverside	684	104	452	401	30	21	128
126 Georgia State University	669	71	223	216	6	1	375
127 Texas Woman's University	653	57	122	114	8	0	474
128 University of Wyoming	641	109	400	333	53	14	132
129 New Mexico State University	637	102	405	330	23	52	130
130 University of Mississippi	632	108	376	348	18	10	148
Total, 1st 130 insts.	224,154	51,738	119,043	96,185	17,030	5,828	53,373
131 SUNY - Binghamton	622	39	423	381	32	10	160
132 University of Calif at Santa Cruz	600	111	382	367	15	0	107
133 Kent State University	598	62	377	376	1	0	159
134 Lehigh University	587	95	452	336	89	27	40
135 University of Missouri - Rolla	582	76	330	259	68	3	176
136 De Paul University	578	4	94	86	8	0	480
137 Old Dominion University	577	122	282	255	26	1	173
138 Western Michigan University	576	6	311	267	30	14	259
139 Northern Arizona University	565	38	232	213	12	7	295
140 Air Force Institute of Technology	548	548	0	0	0	0	0
Total, 1st 140 insts.	229,987	52,839	121,926	98,725	17,311	5,890	55,222
141 University of New Hampshire	546	100	320	291	29	0	126
142 Georgetown University	544	88	176	156	19	1	280
143 Univ of Texas at Dallas	542	4	338	291	47	0	200
144 Illinois Institute of Technology	540	87	305	202	40	63	148
145 University of Idaho	540	135	279	220	46	13	126
146 Univ of Texas Hlth Sci Ctr at Houston	537	248	92	71	21	0	197
147 University of Louisville	531	11	264	247	17	0	256
148 University of Maryland - Baltimore Cnty	524	51	272	252	15	0	201
149 George Mason University	511	22	129	117	12	0	360
150 New School for Social Research	509	13	226	192	12	22	270
Total, 1st 150 insts.	235,311	53,598	124,327	100,764	17,569	5,994	57,386
151 University of Maine	506	102	311	256	40	15	93
152 Union Institute	501	33	215	188	27	0	253
153 University of Central Florida	497	13	268	242	26	0	216
154 University of Vermont & St Agric Colleg	492	146	278	251	22	5	68
155 Drexel University	482	89	333	279	43	11	60
156 Calif Sch of Prof Psych - Los Angeles	482	5	287	287	0	0	190
157 North Dakota State University	482	86	323	221	66	36	73
158 Memphis State University	474	48	310	276	34	0	116
159 The Fielding Institute	473	0	0	0	0	0	473
160 Stevens Institute of Technology	466	28	172	157	6	9	266
Total, 1st 160 insts.	240,166	54,148	126,824	102,921	17,833	6,070	59,194
161 University of Maryland - Balt Prof Sch	464	177	181	148	28	5	106
162 Marquette University	463	45	257	230	26	1	161
163 University of Toledo	463	19	368	336	30	2	76
164 University of Nevada at Reno	463	67	218	186	32	0	178
165 Yeshiva University	455	100	248	234	13	1	107
166 Colorado School of Mines	455	59	242	122	59	51	154
167 Bowling Green State University	453	12	405	383	21	1	36
168 Michigan Technological University	448	49	284	224	60	0	115
169 University of Southern Mississippi	445	98	226	177	49	0	121
170 Montana State University	442	91	299	253	44	2	52
Total, 1st 170 insts.	244,717	54,865	129,552	105,214	18,195	6,143	60,300
171 Calif Sch of Prof Psych-Berkeley/Alamed	440	2	0	0	0	0	438
172 University of Puerto Rico Med Sci Campu	430	118	140	110	28	2	172
173 Howard University	429	60	232	187	44	1	137
174 Miami University	429	28	335	330	2	3	66
175 Wright State University	420	64	250	228	16	6	106
176 Long Island University	419	2	143	127	3	13	274
177 Portland State University	419	32	93	87	3	3	294
178 Brandeis University	414	124	253	233	16	4	37
179 Boston College	412	61	285	255	20	10	66
180 Univ of Texas at El Paso	412	75	227	204	22	1	110
Total, 1st 180 insts.	248,941	55,431	131,510	106,975	18,349	6,186	62,000

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-5. Full-time graduate science and engineering students in doctorate-granting institutions by source of major support, ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Federal Total	Non-Federal				
			Non-Federal total	Institutional 1/	Other U.S. support	Foreign support 2/	Self, loans, & family
181 Hahnemann University	412	18	50	42	8	0	344
182 Loyola University of Chicago	411	34	218	205	10	3	159
183 Brigham Young University	410	2	149	149	0	0	259
184 University of Southwestern Louisiana	410	17	233	227	1	5	160
185 Florida Institute of Technology	408	6	198	168	14	16	204
186 Baylor University	402	120	234	200	32	2	48
187 Worcester Polytechnic Institute	400	21	247	162	47	38	132
188 University of Montana	389	30	204	177	20	7	155
189 The University of Alabama in Huntsville	382	1	177	177	0	0	204
190 St. Louis University	377	109	148	121	25	2	120
Total, 1st 190 insts.	252,942	55,789	133,368	108,603	18,506	6,259	63,785
191 Polytechnic University	370	47	164	108	39	17	159
192 Illinois State University	362	12	268	266	1	1	82
193 University of Puerto Rico	354	25	241	230	7	4	88
194 New York Institute of Technology	347	0	40	36	4	0	307
195 Univ of North Carolina at Greensboro	343	19	151	151	0	0	173
196 Nova University	338	0	0	0	0	0	338
197 Dartmouth College	337	128	205	173	32	0	4
198 Wichita State University	330	20	210	205	5	0	100
199 St John's University	327	1	132	132	0	0	194
200 University of Alaska at Fairbanks	326	74	132	124	7	1	120
Total, 1st 200 insts.	256,376	56,115	134,911	110,028	18,601	6,282	65,350
201 Florida Atlantic University	321	37	284	256	28	0	0
202 Univ of Texas SW Medical Ctr at Dallas	321	143	120	85	34	1	58
203 Univ of Texas Hlth Sci Ctr San Antonio	321	146	119	107	9	3	56
204 Calif Sch of Prof Psych - San Diego	319	2	65	65	0	0	252
205 Fuller Theological Seminary	317	0	5	3	2	0	312
206 South Dakota State University	306	63	204	165	34	5	39
207 Clarkson University	303	66	199	112	87	0	38
208 Rush University	302	62	89	78	11	0	151
209 SUNY - Coll of Env Science and Forestry	295	41	134	96	38	0	120
210 Cleveland State University	294	30	169	164	4	1	95
Total, 1st 210 insts.	259,475	56,705	136,299	111,159	18,848	6,292	66,471
211 Baylor College of Medicine	293	162	116	62	53	1	15
212 Hofstra University	284	16	43	42	1	0	225
213 College of William and Mary	283	68	191	187	1	3	24
214 University of Missouri - Kansas City	281	37	148	127	21	0	96
215 East Carolina University	280	33	200	195	4	1	47
216 University of North Dakota	273	17	204	192	12	0	52
217 Lamar University	272	50	116	110	6	0	106
218 Adelphi University	272	13	158	119	39	0	101
219 Fordham University	271	5	134	129	5	0	132
220 CUNY Hunter College	267	23	90	84	6	0	154
Total, 1st 220 insts.	262,251	57,129	137,699	112,406	18,996	6,297	67,423
221 Ball State University	266	4	219	173	46	0	43
222 Univ of Med and Dent of New Jersey	260	51	181	153	27	1	28
223 Idaho State University	260	79	94	93	1	0	87
224 Catholic University of America	258	38	145	109	17	19	75
225 CUNY City College	258	12	50	49	1	0	196
226 Loma Linda University	252	8	62	59	3	0	182
227 Florida International University	248	16	107	98	8	1	125
228 Central Michigan University	247	2	157	141	16	0	88
229 New Mexico Institute of Mining and Tech	245	0	182	182	0	0	63
230 Calif Sch of Prof Psych - Fresno	239	3	4	4	0	0	232
Total, 1st 230 insts.	264,784	57,342	138,900	113,467	19,115	6,318	68,542
231 University of South Alabama	230	5	102	94	8	0	123
232 Oakland University	228	4	85	62	23	0	139
233 Clark University	217	18	187	152	28	7	12
234 University of Northern Colorado	216	3	50	50	0	0	163
235 US International University	213	0	8	8	0	0	205
236 Univ of Texas Med Branch at Galveston	210	74	99	84	15	0	37
237 South Dakota School of Mines and Tech	208	38	126	98	15	13	44
238 The Wright Institute	207	0	25	21	1	1	182
239 Fairleigh Dickinson University	203	0	22	21	0	0	180
240 Tennessee Technological University	202	0	188	188	0	0	14
Total, 1st 240 insts.	266,918	57,485	139,792	114,245	19,208	6,339	69,641

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-5. Full-time graduate science and engineering students in doctorate-granting institutions by source of major support, ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Federal Total	Non-Federal				
			Non-Federal total	Institutional 1/	Other U.S. support	Foreign support 2/	Self, loans & family
241 Wake Forest University	198	16	182	179	0	3	0
242 Indiana State University	197	7	145	132	2	11	45
243 Clark Atlanta University	191	43	106	76	27	3	42
244 Sam Houston State University	187	5	97	81	12	4	85
245 Duquesne University	185	0	75	74	0	1	110
246 Northeast Louisiana University	182	0	182	182	0	0	0
247 Villanova University	180	6	125	121	4	0	49
248 Louisiana Tech University	176	5	119	109	10	0	52
249 University of South Dakota	173	12	122	103	18	1	39
250 East Texas State University	173	13	29	26	3	0	131
Total, 1st 250 insts.	268,760	57,592	140,974	115,328	19,284	6,362	70,194
251 University of Dayton	170	17	133	128	5	0	20
252 University of Tulsa	167	7	108	83	25	0	52
253 Caribbean Center for Advanced Studies	163	0	5	5	0	0	158
254 Forest Institute of Prof Psych	159	0	0	0	0	0	159
255 Medical University of South Carolina	158	36	114	96	15	3	8
256 Claremont Univ Center & Graduate School	157	0	72	22	17	33	85
257 Biola University	156	0	113	111	0	2	43
258 Santa Clara University	155	6	23	18	3	0	126
259 Southern Methodist University	155	15	94	84	8	1	46
260 University of Tennessee, Memphis	155	73	69	60	2	0	13
Total, 1st 260 insts.	270,355	57,746	141,705	115,935	19,361	6,409	70,904
261 University of Detroit	155	2	33	25	4	4	120
262 East Tennessee State University	150	2	89	88	1	0	59
263 CUNY Mt. Sinai Sch of Medicine	146	67	79	62	16	1	0
264 Oregon Grad Inst of Science & Technology	139	48	82	62	16	4	9
265 Stephen F. Austin State University	137	1	86	83	3	0	50
266 Andrews University	134	0	41	41	0	0	93
267 University of the Pacific	131	8	58	53	3	2	65
268 Rockefeller University	128	44	84	82	2	0	0
269 Pace University	124	0	76	64	12	0	48
270 Uniformed Serv Univ of the Hlth Science	123	99	10	0	0	10	14
Total, 1st 270 insts.	271,722	58,017	142,343	116,495	19,418	6,430	71,362
271 Florida A & M University	122	20	50	40	9	1	52
272 Marshall University	119	2	81	80	1	0	36
273 Pacific Grad School of Prof Psych	118	0	19	19	0	0	99
274 University of Health Sciences (Chicago)	117	7	69	66	3	0	41
275 Wesleyan University	116	17	96	93	3	0	3
276 California Institute of Integral Studie	115	0	11	11	0	0	104
277 Alfred University	111	2	85	66	18	1	24
278 Medical College of Ohio at Toledo	110	0	87	87	0	0	16
279 Texas Christian University	108	15	89	86	3	0	4
280 University of Missouri - St Louis	108	5	67	64	3	0	36
Total, 1st 280 insts.	272,866	58,092	142,997	117,107	19,458	6,432	71,777
281 SUNY - Health Sci Ctr at Brooklyn	107	16	91	90	1	0	0
282 University of Nebraska Medical Center	106	16	84	81	0	3	6
283 Medical College of Georgia	100	25	59	59	0	0	16
284 Oregon Health Sciences University	99	62	37	16	21	0	0
285 Eastern Virginia Medical School	98	7	64	47	17	0	27
286 Chicago School of Prof Psych	97	0	31	31	0	0	66
287 University of Nebraska - Omaha	95	10	38	37	1	0	47
288 Indiana University of Pennsylvania	93	5	66	66	0	0	22
289 University of Northern Iowa	90	2	40	40	0	0	48
290 Mayo Graduate School	88	4	84	83	1	0	0
Total, 1st 290 insts.	273,839	58,239	143,591	117,657	19,499	6,435	72,009
291 Thomas Jefferson University	85	10	63	61	0	2	12
292 Albany Medical Center Graduate School	82	19	49	48	1	0	14
293 University of Arkansas - Med Sci Campus	81	8	62	60	2	0	11
294 The Medical College of Pennsylvania	81	20	36	28	8	0	25
295 Medical College of Wisconsin	80	23	55	40	15	0	2
296 Maharishi International University	77	0	66	61	0	5	11
297 Univ. of Osteopathic Med & Health Sci	68	0	0	0	0	0	68
298 Xavier University	65	64	0	0	0	0	1
299 New York Medical College	63	10	36	32	0	2	17
300 Institute of Paper Science & Technology	55	0	55	54	0	1	0
Total, 1st 300 insts.	274,576	58,393	144,013	118,041	19,527	6,445	72,170

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-5. Full-time graduate science and engineering students in
doctorate-granting institutions by source of major support,
ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Federal Total	Non-Federal				
			Non- Federal total	Institu- tional 1/	Other U.S. support	Foreign support 2/	Self, loans, & family
301 Catholic University of Puerto Rico	51	16	0	0	0	0	35
302 Seton Hall University	50	19	21	21	0	0	10
303 Philadelphia Coll of Pharmacy and Sci	49	1	40	32	6	2	8
304 Rand Graduate School of Policy Studies	48	0	48	48	0	0	0
305 Meharry Medical College	47	39	7	7	0	0	1
306 SUNY - Health Sci Ctr at Syracuse	46	5	39	35	4	0	2
307 Union College (NY)	46	4	15	14	0	1	27
308 University of Maryland Eastern Shore	41	3	32	30	0	2	6
309 Emerson College	41	14	25	23	0	0	4
310 Creighton University	39	3	26	26	0	0	10
Total, 1st 310 insts.	275,034	58,497	144,264	118,277	19,537	6,450	72,273
311 Baylor College of Dentistry	37	2	13	13	0	0	22
312 Mass College of Pharmacy/Allied Health	37	2	20	18	0	2	15
313 Institute of Textile Technology	30	0	30	0	30	0	0
314 Spalding University	24	7	0	0	0	0	17
315 Bryn Mawr College	19	0	19	19	0	0	0
316 University of New England	18	0	0	0	0	0	18
317 CUNY Herbert W. Lehman College	16	1	1	0	1	0	14
318 Golden Gate University	15	0	0	0	0	0	15
319 SUNY State College of Optometry	13	0	11	11	0	0	2
320 Ponce School of Medicine	9	7	2	2	0	0	0
Total, 1st 320 insts.	275,252	58,516	144,360	118,340	19,568	6,452	72,376
321 Smith College	5	0	5	5	0	0	0
322 Mercer University	4	0	3	3	0	0	1
323 Kirksville College of Osteopathic Med	1	0	1	1	0	0	0
324 Morehouse School of Medicine	0	0	0	0	0	0	0
325 NE Ohio Univ Med School	0	0	0	0	0	0	0
326 West Virginia Sch of Osteopathic Med	0	0	0	0	0	0	0
327 Texas College of Osteopathic Medicine	0	0	0	0	0	0	0
328 Chicago Coll of Osteo Medicine	0	0	0	0	0	0	0
329 Providence College	0	0	0	0	0	0	0
330 Phila College of Osteopathic Medicine	0	0	0	0	0	0	0
Total, 1st 330 insts.	275,262	58,516	144,369	118,349	19,568	6,452	72,377
331 Univ of Health Sciences (Kansas City)	0	0	0	0	0	0	0
332 Woods Hole Oceanographic Institution	0	0	0	0	0	0	0
333 Univ of Texas MD Anderson Cancer Center	0	0	0	0	0	0	0
334 Charles R. Drew Univ of Medicine & Sci	0	0	0	0	0	0	0
Total, 1st 334 insts.	275,262	58,516	144,369	118,349	19,568	6,452	72,377

1/ Including support from State and local governments.

2/ Excluding self-supported foreign students.

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students
and Postdoctorates in Science and Engineering

Table F-6. Full-time graduate science and engineering students in doctorate-granting institutions receiving Federal support by agency source of major support, ranked by federally supported full-time graduate science and engineering students: 1990

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Institutional ranking	Federal total	Dep't of Agric.	Dep't of Defense	Dep't of HHS			NSF	Other Federal
				Total	NIH	Other HHS		
Total, all institutions	58,516	2,661	8,702	19,303	14,939	4,364	11,949	15,901
1 University of Calif at Berkeley	1,779	12	122	371	369	2	461	813
2 Massachusetts Institute of Technology	1,751	0	564	250	236	14	517	420
3 University of Illinois at Urbana	1,705	178	386	276	276	0	508	357
4 University of Wisconsin - Madison	1,595	210	88	571	515	56	363	363
5 Stanford University	1,273	5	243	251	234	17	446	333
6 University of Calif at Los Angeles	1,247	5	149	586	329	257	294	213
7 University of Washington	1,240	33	139	526	409	117	285	257
8 US Naval Postgraduate School	1,136	0	1,136	0	0	0	0	0
9 University of Minnesota	1,089	109	73	408	336	72	220	279
10 Cornell University	1,046	74	144	241	162	79	353	234
Total, 1st 10 insts.	13,861	621	3,044	3,480	2,866	614	3,447	3,269
11 University of Michigan	1,026	6	108	462	402	60	193	257
12 Harvard University	970	1	56	530	496	34	218	165
13 University of Colorado	851	8	50	340	185	155	184	269
14 Purdue University	812	79	106	165	155	10	254	208
15 Univ of North Carolina at Chapel Hill	808	0	59	490	357	133	87	172
16 Pennsylvania State University	782	45	216	150	89	61	183	188
17 University of Pennsylvania	753	0	85	382	376	6	199	87
18 University of Southern California	750	0	201	227	190	37	163	159
19 Ohio State University	695	37	76	216	192	24	196	170
20 Columbia University Main Division	672	0	82	320	277	43	173	97
Total, 1st 20 insts.	21,980	797	4,083	6,762	5,585	1,177	5,297	5,041
21 University of Calif at San Diego	665	1	123	307	281	26	166	68
22 Yale University	657	0	30	339	296	43	125	162
23 Texas A & M University	632	42	212	68	59	9	138	172
24 University of Maryland - College Park	625	110	115	47	46	1	158	195
25 University of Arizona	625	39	98	167	110	57	115	206
26 Univ of Texas at Austin	589	0	123	118	107	11	136	203
27 North Carolina State Univ at Raleigh	585	76	99	88	76	12	131	191
28 Johns Hopkins University	549	0	34	397	318	79	78	40
29 Air Force Institute of Technology	548	0	548	0	0	0	0	0
30 Arizona State University	540	0	26	16	0	16	74	424
Total, 1st 30 insts.	27,995	1,075	5,491	8,309	6,878	1,431	6,418	6,702
31 California Institute of Technology	535	0	111	100	68	32	191	133
32 University of Hawaii at Manoa	531	43	8	89	25	64	81	310
33 Northwestern University	523	0	56	161	155	6	174	132
34 University of Calif at San Francisco	519	0	23	457	206	251	29	10
35 University of Florida	512	52	76	226	168	58	68	90
36 Michigan State University	487	74	22	141	130	11	148	102
37 SUNY - Stony Brook	484	0	13	197	162	35	203	71
38 Oregon State University	481	89	33	77	70	7	74	208
39 Carnegie-Mellon University	478	0	165	45	45	0	165	103
40 Iowa State University of Sci & Tech	468	0	15	40	40	0	62	351
Total, 1st 40 insts.	33,013	1,333	6,013	9,842	7,947	1,895	7,613	8,212
41 SUNY - Buffalo	467	2	28	274	213	61	89	74
42 Princeton University	467	0	64	104	104	0	169	130
43 University of Rochester	465	1	53	195	169	26	111	105
44 University of Utah	464	0	67	197	137	60	100	100
45 University of Virginia	455	0	82	191	153	38	71	111
46 Indiana University	447	3	21	191	157	34	85	147
47 University of Pittsburgh	440	0	47	227	155	72	61	105
48 University of Calif at Davis	437	39	27	172	167	5	68	131
49 Georgia Institute of Technology	409	0	103	37	37	0	129	140
50 The University of Alabama at Birmingham	395	0	22	316	163	153	17	40
Total, 1st 50 insts.	37,459	1,378	6,527	11,746	9,382	2,364	8,513	9,295
51 Case Western Reserve University	394	0	35	233	224	9	64	62
52 Virginia Polytechnic Inst and State Uni	391	33	101	19	16	3	81	157
53 Washington University	383	0	6	256	243	13	40	81
54 Duke University	375	3	26	190	177	13	85	71
55 University of Massachusetts	371	40	20	118	87	31	104	89
56 University of Calif at Santa Barbara	358	46	86	43	25	18	120	63
57 University of Iowa	354	9	34	201	164	37	57	53
58 Colorado State University	347	27	19	61	10	51	45	195
59 University of Illinois at Chicago	318	0	33	166	74	92	66	53
60 University of Calif at Irvine	318	1	20	134	115	19	78	85
Total, 1st 60 insts.	41,068	1,537	6,907	13,167	10,517	2,650	9,253	10,204

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-6. Full-time graduate science and engineering students in doctorate-granting institutions receiving Federal support by agency source of major support, ranked by federally supported full-time graduate science and engineering students: 1990

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Institutional ranking	Federal total	Dep't of Agric.	Dep't of Defense	Dep't of HHS			NSF	Other Federal
				Total	NIH	Other HHS		
61 Rensselaer Polytechnic Institute	317	2	107	23	23	0	79	106
62 CUNY Graduate School and Univ Center	298	0	15	112	111	1	68	103
63 Vanderbilt University	297	0	11	152	142	12	29	103
64 University of South Carolina	295	0	9	171	113	58	27	68
65 University of Kentucky	287	32	12	75	32	43	40	128
66 Louisiana State University System	285	63	13	66	49	17	48	95
67 University of Cincinnati	282	0	45	121	80	41	25	91
68 University of Oklahoma	271	3	32	74	34	40	60	102
69 University of Chicago	267	0	1	88	88	0	55	123
70 Florida State University	263	0	52	58	42	16	52	101
Total, 1st 70 insts.	43,930	1,637	7,204	14,109	11,231	2,878	9,756	11,224
71 Brown University	252	0	51	51	44	7	86	64
72 New York University	251	0	15	152	115	37	49	35
73 University of Tennessee at Knoxville	250	39	7	42	20	22	26	136
74 Univ of Texas Hlth Sci Ctr at Houston	248	2	0	199	192	7	4	43
75 University of New Mexico	243	0	28	45	20	25	43	127
76 University of Georgia	243	62	4	77	71	6	45	55
77 University of Connecticut	242	32	31	70	58	12	41	68
78 Rutgers the State University	234	12	26	84	75	9	63	49
79 Rice University	222	2	24	40	32	8	93	63
80 University of Missouri - Columbia	205	51	8	86	53	33	22	38
Total, 1st 80 insts.	46,320	1,837	7,398	14,955	11,911	3,044	10,228	11,902
81 San Diego State University	201	1	5	145	12	133	6	44
82 Auburn University	196	22	59	5	5	0	21	89
83 Mississippi State University	195	10	14	2	1	1	25	144
84 University of Delaware	194	16	31	10	8	2	73	64
85 University of South Florida	192	1	22	85	34	51	14	70
86 University of Miami	190	0	7	112	101	11	38	33
87 University of Oregon	190	0	8	73	73	0	76	33
88 Boston University	190	0	13	104	61	43	37	36
89 Utah State University	187	48	4	13	10	3	19	103
90 Virginia Commonwealth University	182	0	15	142	81	61	3	22
Total, 1st 90 insts.	48,237	1,935	7,576	15,646	12,297	3,349	10,540	12,540
91 West Virginia University	181	63	2	36	19	17	21	59
92 Tufts University	179	0	4	125	122	3	16	34
93 University of Maryland - Balt Prof Sch	177	1	51	115	46	69	2	8
94 Oklahoma State University	174	49	14	3	3	0	18	90
95 University of Rhode Island	166	3	28	29	17	12	40	66
96 University of Nebraska - Lincoln	166	45	14	29	25	4	31	47
97 Washington State University	164	34	13	34	34	0	36	47
98 Baylor College of Medicine	162	0	4	143	135	8	4	11
99 Syracuse University	162	1	21	35	35	0	34	71
100 Wayne State University	157	0	10	75	62	13	33	39
Total, 1st 100 insts.	49,925	2,131	7,737	16,270	12,795	3,475	10,775	13,012
101 Clemson University	154	89	22	2	2	0	28	13
102 Temple University	150	0	1	96	63	33	9	44
103 Univ of Texas Hlth Sci Ctr San Antonio	146	0	42	85	56	29	4	15
104 University of Vermont & St Agric Colleg	146	31	0	69	61	8	10	36
105 Kansas State University	144	54	3	8	5	3	23	56
106 Univ of Texas SW Medical Ctr at Dallas	143	0	0	130	129	1	0	13
107 University of Idaho	135	30	1	4	4	0	19	81
108 University of Notre Dame	133	5	13	28	22	6	54	33
109 Southern Illinois Univ at Carbondale	131	8	9	28	27	1	0	86
110 Texas Tech University	128	5	36	40	28	12	23	24
Total, 1st 110 insts.	51,335	2,353	7,864	16,760	13,192	3,568	10,945	13,413
111 University of Kansas	128	0	1	69	54	15	16	42
112 Dartmouth College	128	0	28	56	56	0	21	23
113 Brandeis University	124	0	1	85	84	1	30	8
114 Old Dominion University	122	0	8	19	6	13	19	76
115 University of Houston - University Park	121	0	12	40	40	0	19	50
116 Baylor University	120	0	116	0	0	0	0	4
117 University of Puerto Rico Med Sci Campu	118	0	0	86	23	63	11	21
118 University of Wisconsin - Milwaukee	115	0	14	29	15	14	12	60
119 University of Calif at Santa Cruz	111	17	5	10	5	5	47	32
120 University of Wyoming	109	4	5	18	10	8	30	52
Total, 1st 120 insts.	52,531	2,374	8,054	17,172	13,485	3,687	11,150	13,781

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-6. Full-time graduate science and engineering students in doctorate-granting institutions receiving Federal support by agency source of major support, ranked by federally supported full-time graduate science and engineering students: 1990

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Institutional ranking	Federal total	Dep't of Agric.	Dep't of Defense	Dep't of HHS			NSF	Other Federal
				Total	NIH	Other HHS		
121 St. Louis University	109	0	11	61	48	13	3	34
122 University of Mississippi	108	11	23	42	28	14	15	17
123 University of Calif at Riverside	104	12	8	35	35	0	22	27
124 New Mexico State University	102	1	20	8	8	0	13	60
125 University of Maine	102	35	0	9	8	1	21	37
126 University of North Texas	100	0	8	24	23	1	13	55
127 Yeshiva University	100	0	0	98	91	7	0	2
128 University of New Hampshire	100	29	7	11	6	5	25	28
129 Uniformed Serv Univ of the Hlth Science	99	0	64	33	26	7	0	2
130 University of Southern Mississippi	98	2	14	11	2	9	11	60
Total, 1st 130 insts.	53,553	2,464	8,209	17,504	13,760	3,744	11,273	14,103
131 Lehigh University	95	0	18	14	14	0	31	32
132 Montana State University	91	18	0	16	11	5	27	30
133 University of Denver	90	1	31	25	9	16	9	24
134 Drexel University	89	1	21	20	20	0	22	25
135 Univ of Texas at Arlington	89	0	23	33	2	31	9	24
136 University of Puerto Rico - Rio Piedras	88	6	0	32	32	0	9	41
137 Georgetown University	88	1	16	44	30	14	7	20
138 Illinois Institute of Technology	87	1	18	3	3	0	17	46
139 North Dakota State University	86	36	13	3	3	0	21	13
140 Emory University	83	0	7	59	51	8	8	9
Total, 1st 140 insts.	54,439	2,528	8,356	17,755	13,937	3,818	11,433	14,367
141 Tulane University of Louisiana	81	0	14	0	0	0	1	66
142 Idaho State University	79	0	0	6	0	6	0	73
143 SUNY - Albany	78	0	0	30	28	2	17	31
144 University of Arkansas	78	16	8	9	9	0	16	29
145 University of Missouri - Rolla	76	0	8	0	0	0	13	55
146 George Washington University	75	0	4	16	15	1	4	51
147 Univ of Texas at El Paso	75	0	6	15	8	7	18	36
148 University of Alaska at Fairbanks	74	0	1	2	2	0	22	49
149 Univ of Texas Med Branch at Galveston	74	0	1	56	56	0	0	17
150 University of Tennessee, Memphis	73	0	1	70	43	27	2	0
Total, 1st 150 insts.	55,202	2,544	8,399	17,959	14,098	3,861	11,526	14,774
151 Georgia State University	71	0	1	61	25	36	6	3
152 Northern Illinois University	69	1	6	26	8	18	15	21
153 The American University	69	1	10	9	8	1	5	44
154 College of William and Mary	68	0	2	0	0	0	13	53
155 CUNY Mt. Sinai Sch of Medicine	67	0	0	63	61	2	0	4
156 University of Nevada at Reno	67	12	9	11	11	0	11	31
157 Clarkson University	66	0	9	1	1	0	21	35
158 Wright State University	64	0	15	25	8	17	0	23
159 Xavier University	64	0	11	50	50	0	0	3
160 The University of Alabama	64	0	5	14	9	5	18	27
Total, 1st 160 insts.	55,871	2,558	8,460	18,219	14,279	3,940	11,616	15,018
161 Northeastern University	63	0	2	25	12	13	24	12
162 South Dakota State University	63	24	0	13	1	12	2	23
163 Rush University	62	0	0	61	26	35	1	0
164 Kent State University	62	0	7	13	0	13	15	27
165 Oregon Health Sciences University	62	3	0	56	52	4	0	3
166 Boston College	61	0	9	46	14	32	3	3
167 Howard University	60	0	7	27	27	0	6	20
168 Colorado School of Mines	59	0	3	0	0	0	1	55
169 Texas Woman's University	57	0	0	56	9	47	0	1
170 University of Lowell	57	0	13	27	1	26	4	13
Total, 1st 170 insts.	56,477	2,585	8,501	18,543	14,421	4,122	11,673	15,175
171 Univ of Med and Dent of New Jersey	51	1	0	47	45	2	2	18
172 University of Maryland - Baltimore Cnty	51	0	6	19	13	6	8	18
173 Lamar University	50	12	7	0	0	0	0	38
174 Michigan Technological University	49	12	7	0	0	0	13	17
175 Memphis State University	48	1	2	12	11	1	8	26
176 Oregon Grad Inst of Science & Technolog	48	1	2	5	5	0	7	33
177 Polytechnic University	47	0	24	1	1	0	19	3
178 University of Akron	47	2	2	13	7	6	13	17
179 Marquette University	45	0	3	13	6	7	7	22
180 Rockefeller University	44	0	0	39	39	0	4	1
Total, 1st 180 insts.	56,957	2,614	8,546	18,692	14,548	4,144	11,754	15,351

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-6. Full-time graduate science and engineering students in doctorate-granting institutions receiving Federal support by agency source of major support, ranked by federally supported full-time graduate science and engineering students: 1990

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Institutional ranking	Federal total	Dep't of Agric.	Dep't of Defense	Dep't of HHS			NSF	Other Federal
				Total	NIH	Other HHS		
181 Clark Atlanta University	43	0	3	22	22	0	1	17
182 SUNY - Coll of Env Science and Forestry	41	27	0	0	0	0	4	10
183 SUNY - Binghamton	39	0	0	5	3	2	13	21
184 Meharry Medical College	39	0	0	28	26	2	5	6
185 South Dakota School of Mines and Tech	38	0	0	0	0	0	15	23
186 Northern Arizona University	38	8	0	6	6	0	6	22
187 Catholic University of America	38	0	14	15	3	12	3	6
188 University of Missouri - Kansas City	37	0	5	23	15	8	3	6
189 Florida Atlantic University	37	0	12	2	0	0	6	19
190 Medical University of South Carolina	36	0	0	24	24	0	0	12
Total, 1st 190 insts.	57,343	2,649	8,580	18,815	14,645	4,170	11,806	15,493
191 Columbia University Teachers College	35	0	1	31	19	12	2	1
192 Loyola University of Chicago	34	0	0	27	13	14	4	3
193 Union Institute	33	0	0	16	9	7	1	16
194 East Carolina University	33	0	2	0	0	0	1	30
195 Portland State University	32	0	26	0	0	0	1	15
196 University of Montana	30	3	0	9	9	0	0	30
197 Cleveland State University	30	0	0	0	0	0	0	30
198 Stevens Institute of Technology	28	0	4	4	4	0	7	13
199 Miami University	26	2	1	6	5	1	0	19
200 Medical College of Georgia	25	0	0	20	5	17	0	5
Total, 1st 200 insts.	57,651	2,654	8,614	18,928	14,704	4,224	11,825	15,630
201 University of Puerto Rico	25	1	3	0	0	0	16	5
202 CUNY Hunter College	23	0	1	17	10	7	4	1
203 Medical College of Wisconsin	23	1	0	22	22	0	0	0
204 George Mason University	22	0	12	4	1	3	4	2
205 Worcester Polytechnic Institute	21	0	4	4	4	0	8	7
206 Wichita State University	20	0	0	12	0	12	0	8
207 New Jersey Institute of Technology	20	0	7	0	0	0	8	7
208 Florida A & M University	20	0	0	7	7	0	0	13
209 The Medical College of Pennsylvania	20	0	1	19	10	9	0	0
210 Univ of North Carolina at Greensboro	19	0	0	0	0	0	0	19
Total, 1st 210 insts.	57,864	2,656	8,642	19,013	14,758	4,255	11,861	15,692
211 Albany Medical Center Graduate School	19	0	1	18	13	5	0	0
212 Seton Hall University	19	0	0	19	0	19	0	0
213 University of Toledo	19	0	3	1	1	0	0	15
214 Clark University	18	1	2	6	5	1	6	3
215 Mohnemann University	18	0	0	8	8	0	0	10
216 University of Southwestern Louisiana	17	0	4	0	0	0	5	8
217 Wesleyan University	17	0	0	11	11	0	6	0
218 University of North Dakota	17	1	0	3	2	1	5	8
219 University of Dayton	17	0	11	0	0	0	3	3
220 University of Nebraska Medical Center	16	0	1	15	6	9	0	0
Total, 1st 220 insts.	58,041	2,658	8,664	19,094	14,804	4,290	11,886	15,739
221 Florida International University	16	0	0	3	3	0	5	8
222 Wake Forest University	16	0	0	14	14	0	1	1
223 Catholic University of Puerto Rico	16	0	0	16	16	0	0	0
224 SUNY - Health Sci Ctr at Brooklyn	16	0	0	15	15	0	1	0
225 Hofstra University	16	0	0	0	0	0	0	16
226 Southern Methodist University	15	0	11	0	0	0	2	2
227 Texas Christian University	15	0	1	4	4	0	0	10
228 Emerson College	14	0	0	14	0	14	0	0
229 East Texas State University	13	0	0	0	0	0	0	13
230 Adelphi University	13	0	0	12	0	12	0	1
Total, 1st 230 insts.	58,191	2,658	8,676	19,172	14,856	4,316	11,895	15,790
231 New School for Social Research	13	0	0	0	0	0	0	13
232 University of Central Florida	13	0	5	0	0	0	6	0
233 CUNY City College	12	0	0	12	12	0	0	0
234 Bowling Green State University	12	0	6	1	1	0	10	1
235 Illinois State University	12	0	1	1	1	0	2	1
236 University of South Dakota	12	0	5	0	0	0	3	6
237 University of Louisville	11	0	2	2	2	0	0	1
238 Thomas Jefferson University	10	0	0	0	0	0	1	9
239 New York Medical College	10	0	0	10	10	0	0	0
240 University of Nebraska - Omaha	10	0	1	2	2	0	1	6
Total, 1st 240 insts.	58,306	2,658	8,696	19,200	14,884	4,316	11,921	15,831

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-6. Full-time graduate science and engineering students in doctorate-granting institutions receiving Federal support by agency source of major support, ranked by federally supported full-time graduate science and engineering students: 1990

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Institutional ranking	Federal total	Dep't of Agric.	Dep't of Defense	Dep't of HHS			NSF	Other Federal
				Total	NIH	Other HHS		
241 University of the Pacific	8	0	0	0	0	0	0	8
242 University of Arkansas - Med Sci Campus	8	0	0	0	0	0	0	8
243 Loma Linda University	8	0	0	0	0	0	0	8
244 University of Tulsa	7	0	0	7	0	0	0	0
245 Medical College of Ohio at Toledo	7	0	0	7	0	0	0	0
246 Indiana State University	7	0	0	7	0	0	0	0
247 Ponce School of Medicine	7	0	0	7	0	0	0	0
248 Ohio University	7	0	0	7	0	0	0	0
249 University of Health Sciences (Chicago)	7	0	0	7	0	0	0	0
250 Spaulding University	7	0	0	7	0	0	0	0
Total, 1st 250 insts.	58,379	2,658	8,696	19,254	14,902	4,352	11,927	15,844
251 Eastern Virginia Medical School	7	0	0	5	4	1	0	2
252 Santa Clara University	6	0	0	0	0	0	0	6
253 Western Michigan University	6	0	1	0	0	0	0	6
254 Florida Institute of Technology	6	0	2	0	0	0	0	6
255 Villanova University	6	0	0	0	0	0	0	6
256 SUNY - Health Sci Ctr at Syracuse	6	0	0	0	0	0	0	6
257 Fordham University	6	0	0	0	0	0	0	6
258 Calif Sch of Prof Psych - Los Angeles	6	0	0	0	0	0	0	6
259 University of Missouri - St Louis	6	0	0	0	0	0	0	6
260 Sam Houston State University	5	0	0	0	0	0	0	5
Total, 1st 260 insts.	58,435	2,658	8,699	19,280	14,927	4,353	11,932	15,866
261 Indiana University of Pennsylvania	5	0	0	2	0	2	0	3
262 Louisiana Tech University	5	0	0	0	0	0	0	5
263 University of South Alabama	5	0	0	0	0	0	0	5
264 Union College(NY)	5	0	0	0	0	0	0	5
265 Mayo Graduate School	5	0	0	0	0	0	0	5
266 Univ of Texas at Dallas	5	0	0	0	0	0	0	5
267 De Paul University	5	0	0	0	0	0	0	5
268 Ball State University	5	0	0	0	0	0	0	5
269 Oakland University	5	0	0	0	0	0	0	5
270 Creighton University	5	0	0	0	0	0	0	5
Total, 1st 270 insts.	58,477	2,658	8,699	19,297	14,934	4,363	11,940	15,883
271 University of Northern Colorado	3	0	0	0	0	0	3	0
272 Calif Sch of Prof Psych - Fresno	3	0	0	0	0	0	0	3
273 University of Maryland Eastern Shore	3	1	0	0	0	0	0	2
274 Baylor College of Dentistry	3	0	2	0	0	0	0	1
275 Alfred University	3	0	0	0	0	0	0	3
276 Marshall University	3	0	0	0	0	0	0	3
277 Mass College of Pharmacy/Allied Health	3	0	1	1	1	0	0	1
278 East Tennessee State University	3	0	0	0	0	0	0	3
279 Long Island University	3	0	0	0	0	0	0	3
280 University of Detroit	3	0	0	2	1	1	0	0
Total, 1st 280 insts.	58,500	2,661	8,702	19,300	14,936	4,364	11,946	15,891
281 Central Michigan University	3	0	0	0	0	0	2	0
282 Brigham Young University	3	0	0	0	0	0	0	3
283 Calif Sch of Prof Psych - San Diego	3	0	0	0	0	0	0	3
284 University of Northern Iowa	3	0	0	0	0	0	0	3
285 Calif Sch of Prof Psych-Berkeley/Alamed	3	0	0	0	0	0	0	3
286 The University of Alabama in Huntsville	3	0	0	0	0	0	0	3
287 St John's University	3	0	0	1	1	0	0	1
288 Stephen F. Austin State University	3	0	0	0	0	0	0	3
289 Fairleigh Dickinson University	3	0	0	0	0	0	0	3
290 CUNY Herbert W. Lehman College	3	0	0	1	1	0	0	1
Total, 1st 290 insts.	58,515	2,661	8,702	19,302	14,938	4,364	11,949	15,901
291 Philadelphia Coll of Pharmacy and Sci	1	0	0	1	1	0	0	0
292 Texas College of Osteopathic Medicine	1	0	0	0	0	0	0	1
293 Pace University	1	0	0	0	0	0	0	1
294 Antioch University	1	0	0	0	0	0	0	1
295 SUNY State College of Optometry	1	0	0	0	0	0	0	1
296 New York Institute of Technology	1	0	0	0	0	0	0	1
297 Kirksville College of Osteopathic Med	1	0	0	0	0	0	0	1
298 Rand Graduate School of Policy Studies	1	0	0	0	0	0	0	1
299 Smith College	1	0	0	0	0	0	0	1
300 Univ of Health Sciences (Kansas City)	1	0	0	0	0	0	0	1
Total, 1st 300 insts.	58,516	2,661	8,702	19,303	14,939	4,364	11,949	15,901

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-6. Full-time graduate science and engineering students in doctorate-granting institutions receiving federal support by agency source of major support, ranked by federally supported full-time graduate science and engineering students: 1990

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Institutional ranking	Federal total	Dep't of Agric.	Dep't of Defense	Dep't of HHS			NSF	Other Federal
				Total	NIH	Other HHS		
301 Northeast Louisiana University	0	0	0	0	0	0	0	0
302 West Virginia Sch of Osteopathic Med	0	0	0	0	0	0	0	0
303 Univ. of Osteopathic Med & Health Sci	0	0	0	0	0	0	0	0
304 New Mexico Institute of Mining and Tech	0	0	0	0	0	0	0	0
305 California Institute of Integral Studie	0	0	0	0	0	0	0	0
306 University of New England	0	0	0	0	0	0	0	0
307 NE Ohio Univ Med School	0	0	0	0	0	0	0	0
308 Caribbean Center for Advanced Studies	0	0	0	0	0	0	0	0
309 Maharishi International University	0	0	0	0	0	0	0	0
310 The Wright Institute	0	0	0	0	0	0	0	0
Total, 1st 310 insts.	58,516	2,661	8,702	19,303	14,939	4,364	11,949	15,901
311 Bryn Mawr College	0	0	0	0	0	0	0	0
312 Pacific Grad School of Prof Psych	0	0	0	0	0	0	0	0
313 Chicago School of Prof Psych	0	0	0	0	0	0	0	0
314 Forest Institute of Prof Psych	0	0	0	0	0	0	0	0
315 Institute of Paper Science & Technology	0	0	0	0	0	0	0	0
316 Morehouse School of Medicine	0	0	0	0	0	0	0	0
317 Duguesne University	0	0	0	0	0	0	0	0
318 Chicago Coll of Osteo Medicine	0	0	0	0	0	0	0	0
319 Nova University	0	0	0	0	0	0	0	0
320 Phila College of Osteopathic Medicine	0	0	0	0	0	0	0	0
Total, 1st 320 insts.	58,516	2,661	8,702	19,303	14,939	4,364	11,949	15,901
321 Mercer University	0	0	0	0	0	0	0	0
322 Providence College	0	0	0	0	0	0	0	0
323 Tennessee Technological University	0	0	0	0	0	0	0	0
324 The Fielding Institute	0	0	0	0	0	0	0	0
325 Univ of Texas MD Anderson Cancer Center	0	0	0	0	0	0	0	0
326 Golden Gate University	0	0	0	0	0	0	0	0
327 Fuller Theological Seminary	0	0	0	0	0	0	0	0
328 Claremont Univ Center & Graduate School	0	0	0	0	0	0	0	0
329 US International University	0	0	0	0	0	0	0	0
330 Biola University	0	0	0	0	0	0	0	0
Total, 1st 330 insts.	58,516	2,661	8,702	19,303	14,939	4,364	11,949	15,901
331 Institute of Textile Technology	0	0	0	0	0	0	0	0
332 Andrews University	0	0	0	0	0	0	0	0
333 Woods Hole Oceanographic Institution	0	0	0	0	0	0	0	0
334 Charles R. Drew Univ of Medicine & Sci	0	0	0	0	0	0	0	0
Total, 1st 334 insts.	58,516	2,661	8,702	19,303	14,939	4,364	11,949	15,901

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table F-7. Full-time graduate science and engineering students in
doctorate-granting institutions by type of major support,
ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Fellow- ships	Trainee- ships	Research assis- tantships	Teaching assis- tantships	Other
Total, all institutions	275,262	25,033	14,786	79,087	62,609	93,747
1 University of Calif at Berkeley	5,274	834	303	1,605	793	1,739
2 University of Wisconsin - Madison	5,099	433	252	2,047	876	1,491
3 University of Illinois at Urbana	4,805	48	294	2,129	1,241	1,093
4 University of Michigan	4,657	808	355	1,233	919	1,342
5 University of Minnesota	4,648	442	129	1,912	1,130	1,035
6 Ohio State University	4,474	331	31	1,425	1,523	1,164
7 University of Calif at Los Angeles	4,444	574	402	966	683	1,819
8 Massachusetts Institute of Technology	4,156	859	174	1,921	473	1,729
9 Texas A & M University	4,145	312	91	1,501	837	1,404
10 Stanford University	3,960	975	176	1,568	358	883
Total, 1st 10 insts.	45,662	5,616	2,207	16,307	8,833	12,699
11 Univ of Texas at Austin	3,914	423	79	1,107	1,078	1,227
12 Purdue University	3,568	346	64	1,209	1,240	1,709
13 University of Southern California	3,549	311	206	1,761	654	1,617
14 Cornell University	3,488	630	456	1,168	708	446
15 University of Washington	3,384	236	298	1,235	671	894
16 Pennsylvania State University	3,101	123	28	1,437	754	759
17 Harvard University	2,098	1,108	512	473	229	776
18 University of Colorado	2,073	186	210	765	551	1,361
19 University of Arizona	2,792	257	52	882	752	849
20 Indiana University	2,706	277	119	464	800	1,046
Total, 1st 20 insts.	78,255	9,563	4,231	25,808	16,270	22,383
21 Univ of North Carolina at Chapel Hill	2,607	156	293	811	646	701
22 University of Calif at Davis	2,597	175	53	858	655	856
23 Michigan State University	2,527	116	52	1,043	766	550
24 North Carolina State Univ at Raleigh	2,451	162	29	1,111	645	504
25 Virginia Polytechnic Inst and State Uni	2,435	107	13	947	786	582
26 University of Florida	2,419	69	67	1,613	380	290
27 University of Maryland - College Park	2,372	238	13	747	772	602
28 University of Pennsylvania	2,313	509	224	556	304	720
29 Iowa State University of Sci & Tech	2,272	104	0	1,232	594	342
30 Columbia University Main Division	2,245	314	210	694	308	719
Total, 1st 30 insts.	102,493	11,513	5,185	35,420	22,126	28,249
31 Georgia Institute of Technology	2,220	102	4	1,067	357	690
32 Rutgers the State University	2,181	329	55	550	733	514
33 SUNY - Buffalo	2,178	165	95	555	542	821
34 University of Pittsburgh	2,174	212	90	517	548	807
35 Louisiana State University System	2,039	202	26	870	462	479
36 University of Chicago	2,016	336	119	355	276	930
37 University of Illinois at Chicago	1,936	108	70	532	669	557
38 CUNY Graduate School and Univ Center	1,851	140	22	457	317	915
39 Arizona State University	1,842	9	0	591	392	850
40 University of Iowa	1,840	82	118	549	618	473
Total, 1st 40 insts.	122,770	13,198	5,784	41,463	27,040	35,285
41 Northwestern University	1,840	390	42	537	275	596
42 University of Calif at San Diego	1,814	267	170	585	400	392
43 Yale University	1,781	650	197	355	107	472
44 University of Virginia	1,761	275	112	537	428	409
45 University of Connecticut	1,753	145	24	524	493	567
46 University of Cincinnati	1,752	63	121	586	431	551
47 Boston University	1,725	59	79	208	473	906
48 Oregon State University	1,657	66	24	758	361	448
49 University of Hawaii at Manoa	1,655	194	98	442	282	639
50 University of Oklahoma	1,598	83	91	386	450	588
Total, 1st 50 insts.	140,106	15,390	6,742	46,381	30,740	40,853
51 Wayne State University	1,583	116	28	254	365	820
52 SUNY - Stony Brook	1,581	28	75	609	654	215
53 University of Tennessee at Knoxville	1,555	30	20	433	395	677
54 Johns Hopkins University	1,520	218	332	428	185	357
55 University of Massachusetts	1,512	82	66	436	577	361
56 University of Calif at Santa Barbara	1,505	161	27	434	528	355
57 University of Kentucky	1,485	209	85	478	422	291
58 George Washington University	1,472	194	0	103	63	1,112
59 New York University	1,454	249	127	272	307	1,196
60 University of Georgia	1,449	65	33	586	448	317
Total, 1st 60 insts.	155,222	16,742	7,535	50,304	34,684	45,957

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-7. Full-time graduate science and engineering students in doctorate-granting institutions by type of major support, ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Fellowships	Traineeships	Research assistantships	Teaching assistantships	Other
61 University of Utah	1,413	104	83	539	306	381
62 Colorado State University	1,399	40	3	366	421	569
63 US Naval Postgraduate School	1,361	0	0	0	0	1,361
64 Princeton University	1,334	179	468	397	216	74
65 Rensselaer Polytechnic Institute	1,314	72	44	509	350	339
66 Kansas State University	1,307	37	9	545	334	382
67 Duke University	1,290	352	135	242	321	240
68 Syracuse University	1,290	115	14	211	435	515
69 University of Missouri - Columbia	1,289	128	45	495	313	308
70 University of Rochester	1,271	238	108	529	223	173
Total, 1st 70 insts.	168,490	18,007	8,444	54,137	37,603	50,299
71 University of Nebraska - Lincoln	1,258	42	21	457	347	391
72 Carnegie-Mellon University	1,252	201	185	587	195	84
73 Case Western Reserve University	1,236	71	70	525	121	449
74 University of South Carolina	1,221	23	111	394	412	281
75 Washington University	1,204	61	208	390	185	360
76 University of Calif at Irvine	1,196	192	109	325	328	242
77 Southern Illinois Univ at Carbondale	1,170	95	61	301	428	285
78 University of New Mexico	1,134	81	41	317	267	428
79 Northeastern University	1,131	45	31	144	317	594
80 Washington State University	1,130	28	30	397	464	211
Total, 1st 80 insts.	180,422	18,846	9,311	57,974	40,667	53,624
81 Clemson University	1,123	23	0	397	501	202
82 California Institute of Technology	1,088	316	0	504	226	42
83 University of Houston-University Park	1,082	25	5	274	330	448
84 San Diego State University	1,079	25	135	122	156	641
85 Florida State University	1,076	80	32	339	298	327
86 Virginia Commonwealth University	1,071	101	89	125	200	556
87 Temple University	1,071	106	61	186	302	416
88 University of Calif at San Francisco	1,069	176	367	124	17	385
89 The University of Alabama at Birmingham	1,055	121	306	230	42	356
90 Utah State University	1,047	55	36	422	131	403
Total, 1st 90 insts.	191,183	19,874	10,342	60,697	42,870	57,400
91 University of South Florida	1,038	48	63	311	233	383
92 West Virginia University	1,037	24	8	354	240	411
93 University of Delaware	1,024	140	12	346	307	219
94 University of Kansas	1,012	2	25	199	274	512
95 Texas Tech University	984	54	19	310	275	326
96 University of Wisconsin - Milwaukee	965	18	116	104	333	394
97 Vanderbilt University	925	128	131	253	262	151
98 University of Akron	910	63	33	397	312	105
99 The American University	899	81	0	107	130	581
100 Mississippi State University	898	20	7	387	156	328
Total, 1st 100 insts.	200,875	20,452	10,756	63,465	45,392	60,810
101 University of Miami	897	102	42	287	141	325
102 Auburn University	895	51	1	345	285	213
103 Univ of Texas at Arlington	892	15	31	169	260	417
104 University of North Texas	888	39	8	132	256	453
105 University of Rhode Island	872	35	37	235	228	337
106 Antioch University	861	0	0	0	0	861
107 New Jersey Institute of Technology	857	5	0	111	68	673
108 Ohio University	851	39	96	115	336	265
109 Tulane University of Louisiana	828	1	222	53	215	337
110 Oklahoma State University	826	43	16	383	328	56
Total, 1st 110 insts.	209,542	20,782	11,209	65,295	47,509	64,747
111 Tufts University	820	87	31	173	182	347
112 SUNY - Albany	815	85	0	113	354	263
113 University of Puerto Rico - Rio Piedras	812	29	8	86	99	590
114 University of Denver	809	54	23	79	155	498
115 University of Lowell	791	13	27	95	363	293
116 Emory University	783	2	329	63	12	377
117 University of Notre Dame	773	143	4	232	262	132
118 Northern Illinois University	761	36	69	164	305	187
119 Rice University	755	40	268	296	9	142
120 University of Arkansas	729	8	3	300	243	175
Total, 1st 120 insts.	217,390	21,279	11,971	66,896	49,493	67,751

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-7. Full-time graduate science and engineering students in
doctorate-granting institutions by type of major support,
ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Fellow- ships	Trainee- ships	Research assis- tantships	Teaching assis- tantships	Other
121 Brown University	725	132	10	225	217	141
122 University of Oregon	715	30	43	163	258	221
123 Columbia University Teachers College	713	20	77	55	72	489
124 The University of Alabama	695	29	3	163	334	166
125 University of Calif at Riverside	684	24	59	206	243	152
126 Georgia State University	669	8	30	188	50	393
127 Texas Woman's University	653	9	47	27	66	512
128 University of Wyoming	641	1	15	244	206	167
129 New Mexico State University	637	23	6	154	262	192
130 University of Mississippi	632	77	28	228	134	165
Total, 1st 130 insts.	224,154	21,632	12,289	68,549	51,335	70,349
131 SUNY - Binghamton	622	66	16	208	172	160
132 University of Calif at Santa Cruz	600	84	11	122	275	108
133 Kent State University	598	0	4	48	360	186
134 Lehigh University	587	65	51	217	167	87
135 University of Missouri - Rolla	582	56	6	162	179	179
136 De Paul University	578	3	2	5	71	497
137 Old Dominion University	577	30	14	198	157	178
138 Western Michigan University	576	11	0	108	160	297
139 Northern Arizona University	565	13	8	120	103	321
140 Air Force Institute of Technology	548	0	0	0	0	548
Total, 1st 140 insts.	229,987	21,960	12,401	69,737	52,979	72,910
141 University of New Hampshire	546	16	3	126	242	159
142 Georgetown University	544	83	74	43	9	335
143 Univ of Texas at Dallas	542	15	0	92	199	236
144 Illinois Institute of Technology	540	32	51	126	163	168
145 University of Idaho	540	7	6	224	146	157
146 Univ of Texas Hlth Sci Ctr at Houston	537	21	59	260	0	197
147 University of Louisville	531	31	4	62	171	263
148 University of Maryland - Baltimore Cnty	524	31	3	90	174	226
149 George Mason University	511	5	2	59	85	360
150 New School for Social Research	509	29	150	10	7	313
Total, 1st 150 insts.	235,311	22,230	12,753	70,829	54,175	75,324
151 University of Maine	506	18	4	219	144	121
152 Union Institute	501	18	23	46	112	302
153 University of Central Florida	497	16	0	38	112	331
154 University of Vermont & St Agric Colleg	492	34	52	165	168	73
155 North Dakota State University	482	21	11	220	130	100
156 Calif Sch of Prof Psych - Los Angeles	482	4	5	9	74	390
157 Drexel University	482	28	21	167	195	71
158 Memphis State University	474	26	23	137	162	126
159 The Fielding Institute	473	0	0	0	0	473
160 Stevens Institute of Technology	466	2	0	48	138	278
Total, 1st 160 insts.	240,166	22,397	12,892	71,878	55,410	77,589
161 University of Maryland - Balt Prof Sch	464	37	74	148	27	178
162 University of Toledo	463	12	0	106	251	94
163 University of Nevada at Reno	463	7	8	158	109	181
164 Marquette University	463	26	8	87	133	209
165 Colorado School of Mines	455	39	0	97	107	212
166 Yeshiva University	455	51	192	11	29	172
167 Bowling Green State University	453	10	27	93	267	56
168 Michigan Technological University	448	64	0	138	109	137
169 University of Southern Mississippi	445	18	15	126	143	143
170 Montana State University	442	8	7	183	191	53
Total, 1st 170 insts.	244,717	22,669	13,223	73,025	56,776	79,024
171 Calif Sch of Prof Psych-Berkeley/Alamed	440	1	0	0	0	439
172 University of Puerto Rico Med Sci Campu	430	4	109	68	6	243
173 Howard University	429	64	16	57	64	228
174 Miami University	429	31	4	99	203	92
175 Wright State University	420	48	27	117	103	125
176 Long Island University	419	8	0	62	49	300
177 Portland State University	419	0	2	32	62	323
178 Brandeis University	414	142	49	101	81	41
179 Univ of Texas at El Paso	412	25	9	99	155	124
180 Hahnemann University	412	0	44	21	0	347
Total, 1st 180 insts.	248,941	22,992	13,483	73,681	57,499	81,286

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-7. Full-time graduate science and engineering students in doctorate-granting institutions by type of major support, ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Fellowships	Traineeships	Research assistantships	Teaching assistantships	Other
181 Boston College	412	29	35	80	155	113
182 Loyola University of Chicago	411	61	43	96	37	174
183 University of Southwestern Louisiana	410	35	5	48	121	201
184 Brigham Young University	410	0	13	44	58	295
185 Florida Institute of Technology	408	4	0	58	93	253
186 Baylor University	402	32	0	53	97	220
187 Worcester Polytechnic Institute	400	24	2	80	116	178
188 University of Montana	389	10	0	50	137	192
189 The University of Alabama in Huntsville	382	1	0	87	76	218
190 St. Louis University	377	38	42	57	51	189
Total, 1st 190 insts.	252,942	23,226	13,623	74,334	58,440	83,319
191 Polytechnic University	370	17	0	74	90	189
192 Illinois State University	362	0	0	53	209	100
193 University of Puerto Rico	354	11	1	93	161	88
194 New York Institute of Technology	347	0	0	6	30	311
195 Univ of North Carolina at Greensboro	343	0	0	138	32	173
196 Nova University	338	0	0	0	0	338
197 Dartmouth College	337	151	15	152	13	6
198 Wichita State University	330	34	21	41	108	126
199 St John's University	327	69	0	28	36	194
200 University of Alaska at Fairbanks	326	4	0	124	71	127
Total, 1st 200 insts.	256,376	23,512	13,660	75,043	59,190	84,971
201 Florida Atlantic University	321	0	0	104	48	169
202 Univ of Texas Hlth Sci Ctr San Antonio	321	24	49	34	99	115
203 Univ of Texas SW Medical Ctr at Dallas	321	29	42	151	18	81
204 Calif Sch of Prof Psych - San Diego	319	2	0	20	43	254
205 Fuller Theological Seminary	317	0	0	0	0	317
206 South Dakota State University	306	2	16	132	113	43
207 Clarkson University	303	17	7	158	75	46
208 Rush University	302	11	29	58	0	204
209 SUNY - Coll of Env Science and Forestry	295	17	0	96	61	121
210 Cleveland State University	294	8	0	124	66	96
Total, 1st 210 insts.	259,475	23,622	13,803	75,920	59,713	86,417
211 Baylor College of Medicine	293	19	46	181	32	15
212 Hofstra University	284	39	4	10	2	229
213 College of William and Mary	283	9	3	161	69	41
214 University of Missouri - Kansas City	281	12	8	52	81	128
215 East Carolina University	280	38	28	56	104	54
216 University of North Dakota	273	4	1	32	170	66
217 Lamar University	272	24	42	37	36	133
218 Adelphi University	272	3	12	16	73	168
219 Fordham University	271	6	5	103	6	151
220 CUNY Hunter College	267	4	13	6	49	195
Total, 1st 220 insts.	262,251	23,780	13,965	76,574	60,335	87,597
221 Ball State University	266	0	1	24	152	89
222 Idaho State University	260	20	51	17	59	113
223 Univ of Med and Dent of New Jersey	260	105	19	96	7	33
224 Catholic University of America	258	57	20	16	58	107
225 CUNY City College	258	10	6	1	30	211
226 Loma Linda University	252	28	7	12	3	202
227 Florida International University	248	7	2	58	49	132
228 Central Michigan University	247	20	0	27	82	118
229 New Mexico Institute of Mining and Tech	245	2	0	108	72	63
230 Calif Sch of Prof Psych - Fresno	239	1	0	0	0	238
Total, 1st 230 insts.	264,784	24,030	14,071	76,933	60,847	88,903
231 University of South Alabama	230	27	22	46	7	128
232 Oakland University	228	0	0	26	40	162
233 Clark University	217	33	1	40	85	58
234 University of Northern Colorado	216	0	0	41	11	164
235 US International University	213	0	0	8	0	205
236 Univ of Texas Med Branch at Galveston	210	13	27	120	0	50
237 South Dakota School of Mines and Tech	208	17	8	46	79	58
238 The Wright Institute	207	4	0	7	9	187
239 Fairleigh Dickinson University	203	0	0	1	9	193
240 Tennessee Technological University	202	1	0	122	65	14
Total, 1st 240 insts.	266,918	24,125	14,129	77,390	61,152	90,122

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-7. Full-time graduate science and engineering students in
doctorate-granting institutions by type of major support,
ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Fellow- ships	Trainee- ships	Research assis- tantships	Teaching assis- tantships	Other
241 Wake Forest University	198	20	15	10	84	69
242 Indiana State University	197	36	3	52	43	63
243 Clark Atlanta University	191	19	29	41	35	67
244 Sam Houston State University	187	14	0	23	54	96
245 Duquesne University	185	0	0	23	35	127
246 Northeast Louisiana University	182	0	0	30	74	78
247 Villanova University	180	6	0	38	76	60
248 Louisiana Tech University	176	7	3	66	43	57
249 East Texas State University	173	0	0	7	9	157
250 University of South Dakota	173	15	0	22	81	55
Total, 1st 250 insts.	268,760	24,242	14,179	77,702	61,686	90,951
251 University of Dayton	170	7	15	82	34	32
252 University of Tulsa	167	6	0	42	67	52
253 Caribbean Center for Advanced Studies	163	1	0	4	0	158
254 Forest Institute of Prof Psych	159	0	0	0	0	159
255 Medical University of South Carolina	158	23	50	59	0	26
256 Claremont Univ Center & Graduate School	157	22	0	0	0	135
257 Biola University	156	1	0	0	0	155
258 Santa Clara University	155	0	0	13	16	126
259 University of Tennessee, Memphis	155	17	54	46	19	19
260 Southern Methodist University	155	10	2	32	57	54
Total, 1st 260 insts.	270,355	24,329	14,300	77,980	61,879	91,867
261 University of Detroit	155	0	0	13	10	132
262 East Tennessee State University	150	1	0	66	24	59
263 CUNY Mt. Sinai Sch of Medicine	146	1	0	145	0	0
264 Oregon Grad Inst of Science & Technolog	139	0	0	129	1	9
265 Stephen F. Austin State University	137	0	0	15	70	52
266 Andrews University	134	16	0	12	3	103
267 University of the Pacific	131	3	9	0	39	80
268 Rockefeller University	128	98	30	0	0	0
269 Pace University	124	0	0	0	1	123
270 Uniformed Serv Univ of the Hlth Science	123	0	0	74	0	49
Total, 1st 270 insts.	271,722	24,448	14,339	78,434	62,027	92,474
271 Florida A & M University	122	21	1	23	14	63
272 Marshall University	119	0	0	22	37	60
273 Pacific Grad School of Prof Psych	118	1	0	9	0	99
274 University of Health Sciences (Chicago)	117	34	17	10	9	56
275 Wesleyan University	116	0	0	25	88	3
276 California Institute of Integral Studie	115	0	0	0	11	104
277 Alfred University	111	4	0	45	18	44
278 Medical College of Ohio at Toledo	110	87	7	0	0	16
279 Texas Christian University	108	17	11	5	15	60
280 University of Missouri - St Louis	108	2	0	20	50	36
Total, 1st 280 insts.	272,866	24,614	14,375	78,593	62,269	93,015
281 SUNY - Health Sci Ctr at Brooklyn	107	16	8	9	72	2
282 University of Nebraska Medical Center	106	10	17	49	14	16
283 Medical College of Georgia	100	1	20	58	1	20
284 Oregon Health Sciences University	99	1	6	92	0	0
285 Eastern Virginia Medical School	98	1	0	61	7	29
286 Chicago School of Prof Psych	97	31	0	0	0	66
287 University of Nebraska - Omaha	95	1	9	3	29	53
288 Indiana University of Pennsylvania	93	2	0	68	0	23
289 University of Northern Iowa	90	6	17	11	8	48
290 Mayo Graduate School	88	18	70	0	0	0
Total, 1st 290 insts.	273,839	24,701	14,522	78,944	62,400	93,272
291 Thomas Jefferson University	85	47	8	0	15	15
292 Albany Medical Center Graduate School	82	2	14	1	43	22
293 University of Arkansas - Med Sci Campus	81	0	69	0	0	12
294 The Medical College of Pennsylvania	81	11	18	16	11	25
295 Medical College of Wisconsin	80	43	3	20	0	14
296 Maharishi International University	77	0	33	26	1	17
297 Univ. of Osteopathic Med & Health Sci	68	0	0	0	0	68
298 Xavier University	65	0	61	0	3	1
299 New York Medical College	63	43	0	0	0	20
300 Institute of Paper Science & Technology	55	55	0	0	0	0
Total, 1st 300 insts.	274,576	24,902	14,728	79,007	62,473	93,466

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-7. Full-time graduate science and engineering students in doctorate-granting institutions by type of major support, ranked by full-time graduate science and engineering students: 1990

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Institutional ranking	Total full-time students	Fellowships	Traineeships	Research assistantships	Teaching assistantships	Other
301 Catholic University of Puerto Rico	51	0	0	16	0	35
302 Seton Hall University	50	0	19	0	21	10
303 Philadelphia Coll of Pharmacy and Sci	49	11	0	0	30	8
304 Rand Graduate School of Policy Studies	48	48	0	0	0	0
305 Meharry Medical College	47	38	0	0	0	3
306 SUNY - Health Sci Ctr at Syracuse	46	18	0	25	0	3
307 Union College(NY)	46	1	4	0	0	41
308 Emerson College	41	0	14	0	8	19
309 University of Maryland Eastern Shore	41	1	0	13	19	8
310 Creighton University	39	9	9	3	7	11
Total, 1st 310 insts.	275,034	25,028	14,780	79,064	62,558	93,604
311 Mass College of Pharmacy/Allied Health	37	3	0	3	16	15
312 Baylor College of Dentistry	37	0	0	0	13	24
313 Institute of Textile Technology	30	0	0	0	0	30
314 Spalding University	24	0	6	1	0	17
315 Bryn Mawr College	19	1	0	1	13	4
316 University of New England	18	0	0	0	0	18
317 CUNY Herbert H. Lehman College	16	0	0	0	0	16
318 Golden Gate University	15	0	0	0	0	15
319 SUNY State College of Optometry	13	0	0	11	0	2
320 Ponce School of Medicine	9	1	0	6	1	1
Total, 1st 320 insts.	275,252	25,033	14,786	79,086	62,601	93,746
321 Smith College	5	0	0	0	5	0
322 Mercer University	4	0	0	0	3	1
323 Kirksville College of Osteopathic Med	1	0	0	1	0	0
324 Chicago Coll of Osteo Medicine	0	0	0	0	0	0
325 NE Ohio Univ Med School	0	0	0	0	0	0
326 Morehouse School of Medicine	0	0	0	0	0	0
327 West Virginia Sch of Osteopathic Med	0	0	0	0	0	0
328 Providence College	0	0	0	0	0	0
329 Phila College of Osteopathic Medicine	0	0	0	0	0	0
330 Woods Hole Oceanographic Institution	0	0	0	0	0	0
Total, 1st 330 insts.	275,262	25,033	14,786	79,087	62,609	93,747
331 Univ of Health Sciences (Kansas City)	0	0	0	0	0	0
332 Texas College of Osteopathic Medicine	0	0	0	0	0	0
333 Univ of Texas MD Anderson Cancer Center	0	0	0	0	0	0
334 Charles R. Drew Univ of Medicine & Sci	0	0	0	0	0	0
Total, 1st 334 insts.	275,262	25,033	14,786	79,087	62,609	93,747

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table F-8. Graduate science and engineering students
in doctorate-granting institutions,
ranked by 1990 total graduate science and engineering students: 1983-90

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Institutional ranking	1983	1984	1985	1986	1987	1988	1989	1990
Total, all institutions	342,956	346,264	355,875	366,927	372,101	377,360	384,014	398,405
1 University of Southern California	8,058	7,046	8,051	7,866	7,474	7,034	6,397	5,707
2 University of Minnesota	5,109	5,223	5,595	5,524	5,320	4,779	4,607	4,610
3 University of Wisconsin - Madison	5,247	5,411	5,229	5,229	5,088	4,387	4,371	4,746
4 Ohio State University	4,664	4,575	4,739	4,050	4,088	3,787	3,133	1,188
5 University of Calif at Berkeley	5,150	5,300	5,207	5,297	5,337	5,099	5,057	5,274
6 University of Michigan	4,437	4,458	4,559	4,672	4,882	4,883	4,079	2,284
7 University of Illinois at Urbana	4,392	4,153	4,470	4,693	4,854	4,805	4,792	4,894
8 George Washington University	3,388	3,604	3,532	4,693	4,609	4,623	4,190	4,426
9 Univ of Texas at Austin	4,465	4,464	4,641	4,688	4,390	4,420	4,436	4,717
10 Texas A & M University	3,907	3,929	3,795	4,019	4,194	4,409	4,635	4,927
Total, 1st 10 insts.	48,817	48,223	49,818	51,410	51,436	51,317	50,897	51,773
11 University of Calif at Los Angeles	4,198	4,107	4,214	4,201	4,270	4,356	4,427	4,523
12 University of Washington	4,904	4,165	4,234	4,115	4,134	4,255	4,172	4,335
13 Pennsylvania State University	4,557	4,628	4,781	4,129	4,046	4,245	4,348	4,700
14 Stanford University	4,207	4,134	4,135	4,050	4,157	4,147	4,177	4,275
15 Purdue University	4,293	4,556	4,622	4,725	3,851	4,058	4,040	3,915
16 Rutgers the State University	4,159	4,985	4,034	4,163	4,036	4,018	4,093	4,249
17 Massachusetts Institute of Technology	4,013	4,996	4,045	4,065	4,062	4,951	4,165	4,245
18 University of Maryland - College Park	4,196	4,333	4,439	5,15	5,92	6,684	6,860	4,931
19 University of Colorado	4,187	4,070	4,207	4,430	4,558	4,681	4,864	4,198
20 University of Pittsburgh	4,157	4,203	4,858	4,756	4,819	4,679	4,635	3,852
Total, 1st 20 insts.	87,778	86,400	88,387	90,559	90,961	91,391	91,678	93,996
21 University of Arizona	3,276	3,435	3,582	3,752	3,631	3,629	3,474	3,377
22 Cornell University	3,991	4,007	4,103	3,361	3,365	3,386	4,416	4,408
23 University of Florida	3,849	4,049	4,244	3,305	3,223	2,993	3,371	3,588
24 University of Massachusetts	3,369	4,458	5,96	6,69	6,216	1,78	1,130	2,251
25 Harvard University	3,842	4,013	4,216	2,66	2,975	1,63	1,069	2,31
26 SUNY - Buffalo	3,338	3,838	3,738	3,823	3,063	1,50	1,125	3,316
27 Virginia Polytechnic Inst and State Uni	2,532	3,815	4,497	4,497	4,430	4,086	2,227	2,075
28 North Carolina State Univ at Raleigh	2,634	2,729	2,690	2,964	2,883	3,031	2,114	2,45
29 Arizona State University	2,246	2,219	2,435	4,470	6,618	2,896	2,165	2,222
30 Columbia University Main Division	2,993	3,020	3,065	3,126	2,990	2,895	2,945	2,942
Total, 1st 30 insts.	114,848	114,983	118,553	121,792	121,755	123,098	123,714	126,651
31 New York University	3,853	3,322	3,680	3,200	3,152	2,856	3,142	3,161
32 Michigan State University	3,003	2,897	2,868	3,087	2,947	2,845	2,051	2,993
33 University of Illinois at Chicago	2,530	2,708	2,638	2,813	2,728	2,835	2,074	1,121
34 Iowa State University of Sci & Tech	2,597	2,491	2,578	2,619	2,659	2,714	2,680	2,755
35 Georgia Institute of Technology	2,000	2,339	2,271	2,354	2,666	2,677	2,766	2,972
36 Univ of North Carolina at Chapel Hill	2,427	2,393	2,426	2,339	2,692	2,669	2,963	2,066
37 Indiana University	2,362	2,411	1,869	1,13	1,630	2,659	2,473	2,914
38 New Jersey Institute of Technology	918	1,655	1,907	1,102	4,19	2,658	2,647	2,283
39 Wayne State University	2,149	2,525	2,333	2,491	2,482	2,624	2,930	2,155
40 University of Calif at Davis	2,557	2,571	2,662	2,744	2,608	2,587	2,668	2,717
Total, 1st 40 insts.	139,244	140,025	143,785	148,454	148,738	150,222	153,108	156,788
41 University of Tennessee at Knoxville	2,480	2,389	2,419	2,464	2,368	2,535	2,735	2,668
42 University of Cincinnati	2,390	2,406	2,364	2,389	2,368	2,421	2,422	2,576
43 University of Pennsylvania	2,573	2,36	2,23	2,510	2,437	2,415	2,521	2,526
44 Louisiana State University System	2,360	2,573	2,490	2,399	2,464	2,407	2,340	2,567
45 Northeastern University	2,539	2,825	2,699	2,598	2,435	2,359	2,241	2,414
46 SUNY - Stony Brook	2,035	1,998	2,025	1,109	1,194	1,321	2,290	3,305
47 University of Connecticut	2,004	1,966	2,025	1,163	2,270	2,282	2,290	2,510
48 University of Oklahoma	2,077	2,094	1,165	1,181	2,364	2,235	2,270	2,472
49 Boston University	2,121	2,096	2,241	2,359	2,361	2,211	2,229	2,346
50 Syracuse University	2,227	2,292	2,108	2,188	2,138	2,195	2,135	2,155
Total, 1st 50 insts.	163,050	163,100	166,845	171,814	172,137	173,593	176,581	181,327
51 University of Iowa	1,955	1,927	1,972	2,084	2,068	2,171	2,140	2,301
52 University of Kansas	2,387	2,215	2,124	2,049	2,041	2,091	2,191	2,257
53 University of Lowell	1,408	1,738	1,805	1,932	1,151	2,088	1,582	2,070
54 CUNY Graduate School and Univ Center	1,748	1,767	1,665	1,853	2,026	2,047	2,055	2,068
55 Polytechnic University	1,540	1,743	1,929	2,324	2,066	2,028	2,050	1,974
56 Columbia University Teachers College	1,400	1,713	1,753	1,758	1,751	1,987	1,884	1,928
57 Case Western Reserve University	1,779	1,848	1,921	1,947	2,243	1,986	1,702	1,803
58 San Diego State University	1,624	1,586	1,885	1,893	1,992	1,960	2,100	2,037
59 Yale University	1,664	1,577	1,791	1,841	1,926	1,938	1,931	1,934
60 Northwestern University	1,622	1,665	1,743	1,722	1,838	1,905	1,971	1,920
Total, 1st 60 insts.	180,177	180,879	185,433	191,217	192,239	193,794	196,187	201,619

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-8. Graduate science and engineering students
in doctorate-granting institutions,
ranked by 1990 total graduate science and engineering students: 1983-90

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Institutional ranking	1983	1984	1985	1986	1987	1988	1989	1990
61 George Mason University	502	781	1,065	1,221	1,566	1,903	2,050	2,275
62 Texas Woman's University	1,945	1,977	1,928	1,976	1,864	1,883	2,044	1,744
63 Univ of Texas at Arlington	1,621	1,787	1,806	1,858	1,874	1,882	1,910	2,001
64 Colorado State University	1,807	1,734	1,722	1,756	1,804	1,870	1,864	1,870
65 University of Missouri - Columbia	1,795	1,925	1,890	1,981	1,888	1,849	1,833	1,983
66 University of Virginia	1,539	1,631	1,663	1,848	1,877	1,846	1,888	1,906
67 University of Hawaii at Manoa	1,782	1,702	1,705	1,820	1,822	1,829	1,857	1,984
68 University of Kentucky	1,539	1,640	1,641	1,642	1,689	1,764	1,890	1,906
69 University of Chicago	1,421	1,427	1,503	1,625	1,741	1,757	1,969	2,016
70 University of Utah	1,831	1,829	1,878	1,900	1,879	1,754	1,808	1,876
Total, 1st 70 insts.	195,959	197,312	202,334	208,814	210,243	212,131	215,100	221,180
71 Oregon State University	1,657	1,732	1,673	1,797	1,779	1,740	1,722	1,795
72 University of South Carolina	1,661	1,671	1,620	1,829	1,895	1,708	1,858	1,874
73 University of Wisconsin - Milwaukee	1,671	1,620	1,628	1,630	1,691	1,698	1,709	1,747
74 University of South Florida	1,046	986	1,155	1,304	1,559	1,688	1,817	2,158
75 Rensselaer Polytechnic Institute	1,825	1,822	1,761	1,841	1,778	1,668	1,795	1,708
76 Stevens Institute of Technology	1,084	1,455	1,573	1,622	1,642	1,668	1,435	1,333
77 University of Houston-University Park	1,684	1,486	1,622	1,895	1,828	1,655	2,082	2,278
78 Illinois Institute of Technology	1,784	1,745	1,781	1,583	1,632	1,654	1,510	1,776
79 Johns Hopkins University	1,493	1,395	1,512	1,528	1,484	1,647	1,694	1,756
80 Santa Clara University	1,310	1,422	1,580	1,665	1,619	1,642	1,694	1,293
Total, 1st 80 insts.	211,174	212,646	218,239	225,508	226,850	228,897	232,216	239,280
81 Southern Illinois Univ at Carbondale	1,288	1,289	1,433	1,512	1,656	1,624	1,599	1,565
82 University of New Mexico	1,540	1,456	1,533	1,556	1,665	1,623	1,551	1,661
83 University of Calif at San Diego	1,241	1,303	1,404	1,528	1,616	1,571	1,702	1,941
84 Carnegie-Mellon University	1,144	1,198	1,419	1,535	1,512	1,563	1,609	1,657
85 Oklahoma State University	1,479	1,427	1,439	1,529	1,577	1,542	1,690	1,721
86 Long Island University	1,945	1,996	1,500	1,655	1,534	1,537	1,260	1,503
87 University of Georgia	1,532	1,555	1,436	1,465	1,576	1,525	1,501	1,653
88 University of Akron	1,132	1,225	1,337	1,398	1,448	1,505	1,526	1,593
89 Kansas State University	1,331	1,377	1,345	1,409	1,450	1,505	1,533	1,532
90 University of Nebraska - Lincoln	1,462	1,431	1,359	1,351	1,407	1,415	1,457	1,550
Total, 1st 90 insts.	225,268	226,903	232,444	240,446	242,291	244,307	247,644	255,656
91 Virginia Commonwealth University	969	974	998	1,168	1,301	1,412	1,498	1,712
92 Clemson University	1,119	1,173	1,224	1,311	1,333	1,396	1,451	1,500
93 Western Michigan University	1,161	1,282	1,253	1,345	1,540	1,392	1,342	1,479
94 Auburn University	984	1,098	1,257	1,303	1,340	1,391	1,517	1,699
95 The University of Alabama at Birmingham	878	897	980	1,120	1,270	1,387	1,449	1,499
96 Washington University	1,068	1,038	1,080	1,200	1,325	1,377	1,437	1,593
97 The American University	1,459	1,442	1,720	1,600	1,645	1,771	1,476	1,559
98 West Virginia University	1,517	1,498	1,412	1,339	1,242	1,352	1,396	1,522
99 University of Rochester	1,098	1,169	1,224	1,271	1,276	1,334	1,376	1,411
100 US Naval Postgraduate School	1,266	1,171	1,302	1,260	1,204	1,331	1,349	1,361
Total, 1st 100 insts.	236,787	238,645	244,864	253,363	255,767	258,050	261,935	270,791
101 University of Calif at Santa Barbara	1,218	1,344	1,347	1,368	1,401	1,328	1,440	1,525
102 Drexel University	1,102	1,208	1,336	1,362	1,391	1,318	1,276	1,410
103 Duke University	961	976	1,060	1,166	1,216	1,283	1,299	1,388
104 Washington State University	1,367	1,411	1,440	1,398	1,362	1,276	1,191	1,271
105 De Paul University	1,005	969	1,159	1,191	1,295	1,273	1,400	1,444
106 Princeton University	1,123	1,137	1,164	1,177	1,182	1,248	1,327	1,335
107 University of Missouri - Rolla	1,068	1,095	1,159	1,246	1,282	1,239	1,231	1,224
108 Temple University	1,223	1,242	1,242	1,158	1,203	1,237	1,457	1,505
109 Florida State University	1,216	1,112	1,137	1,190	1,110	1,219	1,425	1,483
110 University of North Texas	1,274	1,400	1,244	1,202	1,158	1,218	1,221	1,206
Total, 1st 110 insts.	248,344	250,539	257,152	265,821	268,367	270,689	275,202	284,782
111 University of Rhode Island	1,102	1,091	1,126	1,196	1,286	1,217	1,278	1,310
112 Utah State University	1,065	1,207	1,078	1,207	1,163	1,213	1,247	1,234
113 Nova University	436	476	720	436	260	202	247	923
114 University of Delaware	1,180	1,112	1,150	1,189	1,303	1,198	1,239	1,357
115 University of Miami	1,024	1,024	1,106	1,080	1,174	1,196	1,157	1,213
116 Pace University	1,666	1,153	1,079	1,375	1,223	1,164	1,217	1,554
117 University of Calif at Irvine	868	931	992	1,027	1,109	1,161	1,215	1,279
118 SUNY - Binghamton	1,126	1,137	1,159	1,131	1,106	1,161	1,199	1,182
119 Antioch University	965	0	0	0	0	1,133	1,019	1,146
120 University of Louisville	1,115	1,053	966	977	1,038	1,126	1,141	1,115
Total, 1st 120 insts.	258,891	259,723	266,528	275,439	279,029	282,460	287,161	296,895

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-8. Graduate science and engineering students
in doctorate-granting institutions,
ranked by 1990 total graduate science and engineering students: 1983-90

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Institutional ranking	1983	1984	1985	1986	1987	1988	1989	1990
121 Cleveland State University	964	993	989	940	1,008	1,104	1,060	1,099
122 Old Dominion University	991	931	906	950	986	1,091	1,104	1,195
123 Univ of Texas at Dallas	842	898	946	963	975	1,088	1,169	1,233
124 New School for Social Research	1,430	1,328	1,273	1,135	1,103	1,080	1,066	984
125 SUNY - Albany	843	843	1,123	1,153	1,077	1,077	1,088	1,264
126 Mississippi State University	973	1,014	949	927	1,044	1,075	1,090	1,087
127 University of Central Florida	814	971	1,062	1,113	1,151	1,052	1,047	1,216
128 Texas Tech University	1,089	1,140	1,143	1,071	1,077	1,044	1,167	1,293
129 University of Puerto Rico - Rio Piedras	1,105	1,239	1,263	1,265	1,135	1,041	1,097	1,235
130 Worcester Polytechnic Institute	932	1,045	1,047	1,114	1,016	1,035	984	878
Total, 1st 130 insts.	268,874	270,125	277,229	286,070	289,692	293,147	298,033	308,379
131 University of Calif at San Francisco	876	856	873	949	994	1,033	1,037	1,083
132 California Institute of Technology	946	995	998	992	965	1,010	1,065	1,088
133 Ohio University	864	1,007	897	930	998	1,000	986	1,004
134 Florida Institute of Technology	928	954	1,025	1,053	1,103	999	1,024	894
135 Fairleigh Dickinson University	1,272	1,241	1,252	794	1,027	993	859	912
136 Tufts University	571	668	765	744	858	986	1,006	1,037
137 Georgia State University	952	1,025	884	926	928	984	1,068	1,111
138 Catholic University of America	1,035	1,081	1,081	1,037	1,032	980	916	940
139 Lehigh University	963	932	964	1,017	944	974	1,018	764
140 Southern Methodist University	892	802	736	770	895	974	952	901
Total, 1st 140 insts.	278,176	279,686	286,704	295,282	299,436	303,080	307,964	318,113
141 Northern Illinois University	906	830	829	883	905	973	977	1,116
142 Villanova University	1,016	982	1,001	1,061	979	958	902	844
143 New York Institute of Technology	664	949	898	928	884	948	961	939
144 Tulane University of Louisiana	941	850	893	905	893	931	947	1,009
145 Wright State University	677	701	743	759	861	921	961	993
146 Kent State University	794	842	880	899	901	911	961	1,029
147 Wichita State University	709	775	756	772	896	905	881	872
148 New Mexico State University	802	792	793	843	900	903	856	883
149 CUNY City College	928	710	762	1,059	896	894	716	854
150 University of Idaho	771	776	775	778	837	887	960	1,048
Total, 1st 150 insts.	286,384	287,893	295,034	304,169	308,388	312,311	317,086	327,800
151 Georgetown University	990	874	1,251	1,259	1,022	884	886	703
152 Brigham Young University	887	885	1,030	1,047	1,001	883	707	680
153 Adelphi University	1,018	1,067	1,012	971	902	871	943	947
154 Howard University	831	1,059	947	842	896	868	751	781
155 University of Arkansas	980	984	971	943	958	858	857	911
156 Vanderbilt University	682	709	753	739	795	839	1,001	996
157 University of Maryland - Baltimore Cnty	358	396	419	563	507	831	835	913
158 University of Dayton	543	576	654	806	947	830	775	871
159 University of Maryland - Balt Prof Sch	749	743	716	819	812	827	921	965
160 The University of Alabama in Huntsville	334	517	609	627	742	826	940	1,099
Total, 1st 160 insts.	293,756	295,703	303,396	312,785	316,970	320,828	325,702	336,666
161 Marquette University	639	631	708	764	828	819	814	815
162 Brown University	749	743	757	797	788	801	785	769
163 University of Oregon	779	762	757	740	754	794	776	776
164 Portland State University	521	573	630	676	692	778	815	918
165 St. Louis University	804	817	776	779	744	777	804	800
166 CUNY Hunter College	755	833	913	843	786	774	749	809
167 Emory University	513	709	704	743	752	769	852	1,013
168 University of Notre Dame	663	672	667	658	672	755	756	807
169 Golden Gate University	139	775	691	593	847	754	618	354
170 Rice University	689	740	757	795	840	750	789	800
Total, 1st 170 insts.	300,007	302,958	310,756	320,173	324,673	328,599	333,460	344,527
171 Univ of Texas Hlth Sci Ctr at Houston	644	670	655	690	703	749	832	919
172 University of Missouri - Kansas City	620	518	629	718	866	745	768	812
173 Univ of Texas at El Paso	644	777	737	676	703	738	701	766
174 Northern Arizona University	625	558	726	612	689	729	804	953
175 Memphis State University	829	865	943	979	820	721	767	896
176 The University of Alabama	517	641	682	734	775	714	768	807
177 University of Mississippi	540	580	566	640	601	709	750	739
178 University of Calif at Riverside	744	732	769	727	735	701	672	711
179 Colorado School of Mines	582	442	616	803	774	700	679	679
180 University of Wyoming	835	779	813	740	739	697	802	851
Total, 1st 180 insts.	306,687	309,520	317,892	327,492	332,078	335,802	341,003	352,660

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-8. Graduate science and engineering students
in doctorate-granting institutions,
ranked by 1990 total graduate science and engineering students: 1983-90

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Institutional ranking	1983	1984	1985	1986	1987	1988	1989	1990
181 University of Denver	756	771	731	663	652	691	644	981
182 Oakland University	402	478	559	602	622	652	701	668
183 University of Vermont & St Agric Colleg	634	661	618	630	605	650	618	625
184 University of Maine	509	580	523	538	614	649	667	660
185 University of Nevada at Reno	532	561	547	505	609	646	749	872
186 St John's University	753	654	610	698	639	641	569	707
187 University of New Hampshire	502	518	536	570	584	634	634	683
188 North Dakota State University	581	555	589	614	574	620	615	560
189 University of Southern Mississippi	488	606	657	683	610	605	661	603
190 Yeshiva University	538	552	599	561	586	600	666	590
Total, 1st 190 insts.	312,382	315,456	323,861	333,556	338,173	342,190	347,527	359,609
191 Air Force Institute of Technology	583	639	551	524	580	596	548	653
192 Bowling Green State University	475	515	487	509	536	589	596	581
193 Loyola University of Chicago	617	625	562	561	580	587	608	730
194 University of Toledo	658	765	786	729	726	583	666	700
195 Florida International University	27	0	0	0	0	581	710	772
196 Hofstra University	386	350	516	507	553	580	599	549
197 University of Puerto Rico Med Sci Campu	471	404	453	411	460	558	601	657
198 Illinois State University	466	442	465	449	541	557	567	523
199 US International University	610	513	540	630	613	547	497	519
200 Boston College	481	498	511	523	521	538	614	623
Total, 1st 200 insts.	317,156	320,207	328,732	338,399	343,283	347,906	353,533	365,916
201 University of Detroit	541	530	503	540	579	526	588	564
202 University of Nebraska - Omaha	462	423	418	454	474	521	473	505
203 Montana State University	508	493	510	476	461	520	515	483
204 Claremont Univ Center & Graduate School	229	205	207	448	480	517	502	511
205 Florida Atlantic University	555	438	446	475	499	512	490	742
206 Hahnemann University	257	284	282	391	394	494	406	506
207 University of Southwestern Louisiana	656	684	693	633	560	490	534	538
208 Loma Linda University	649	512	649	537	453	489	464	459
209 Miami University	536	494	521	505	546	477	454	468
210 Union Institute	288	293	444	470	476	471	488	501
Total, 1st 210 insts.	321,837	324,563	333,405	343,328	348,205	352,923	358,447	371,193
211 Fordham University	579	633	598	480	543	461	470	566
212 Calif Sch of Prof Psych-Berkeley/Alamed	300	361	391	426	423	455	501	512
213 University of Calif at Santa Cruz	375	403	433	455	462	455	555	608
214 Calif Sch of Prof Psych - Los Angeles	266	330	424	428	438	452	501	585
215 Univ of North Carolina at Greensboro	511	517	503	500	494	451	447	530
216 Rush University	115	330	342	376	394	434	487	471
217 Calif Sch of Prof Psych - San Diego	322	389	401	415	430	434	480	519
218 The Fielding Institute	380	436	449	447	471	434	470	473
219 South Dakota State University	397	386	432	431	431	429	441	493
220 SUNY - Coll of Env Science and Forestry	431	382	384	418	399	429	482	527
Total, 1st 220 insts.	325,513	328,730	337,762	347,704	352,690	357,357	363,281	376,477
221 University of Montana	511	537	470	435	430	421	456	510
222 University of Northern Colorado	79	133	192	456	552	419	262	339
223 Michigan Technological University	319	350	334	383	398	417	442	464
224 University of Alaska at Fairbanks	424	352	381	399	387	404	444	487
225 University of South Alabama	229	229	261	305	345	392	453	494
226 New York Medical College	264	359	380	344	386	391	290	257
227 Atlanta University	421	411	436	425	406	389	0	0
228 Brandeis University	318	314	311	342	366	375	392	416
229 University of Puerto Rico	310	395	415	427	397	374	364	358
230 Sam Houston State University	445	373	352	376	391	373	328	343
Total, 1st 230 insts.	328,833	332,183	341,294	351,596	356,748	361,312	366,712	380,145
231 East Carolina University	443	448	374	373	354	364	382	363
232 East Tennessee State University	224	193	206	241	262	356	318	343
233 East Texas State University	645	505	501	481	36	348	377	363
234 Baylor University	191	254	304	289	289	340	430	493
235 Dartmouth College	292	285	293	308	298	339	352	339
236 Idaho State University	233	232	266	257	336	338	445	512
237 Ball State University	370	518	473	477	341	327	333	421
238 University of North Dakota	365	351	360	356	319	320	332	326
239 Clarkson University	303	337	343	348	319	320	308	312
240 Central Michigan University	449	393	397	399	363	316	312	298
Total, 1st 240 insts.	332,548	335,699	344,811	355,125	359,919	364,688	370,301	383,915

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-8. Graduate science and engineering students
in doctorate-granting institutions,
ranked by 1990 total graduate science and engineering students: 1983-90

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Institutional ranking	1983	1984	1985	1986	1987	1988	1989	1990
241 Seton Hall University	366	319	322	300	297	313	278	278
242 College of William and Mary	285	291	293	314	303	310	302	334
243 University of Missouri - St Louis	300	284	274	323	303	309	313	316
244 Univ of Texas Hlth Sci Ctr San Antonio	251	281	277	292	302	309	443	465
245 Lamar University	289	334	304	330	282	303	320	339
246 Univ of Med and Dent of New Jersey	226	229	222	237	268	302	272	284
247 Indiana State University	255	282	282	297	311	302	352	298
248 University of Tulsa	257	253	286	290	325	300	257	260
249 Duquesne University	314	303	283	306	315	299	314	380
250 Univ of Texas SW Medical Ctr at Dallas	249	260	265	276	257	298	317	321
Total, 1st 250 insts.	335,342	338,535	347,619	358,090	362,882	367,733	373,469	387,190
251 Fuller Theological Seminary	172	180	176	186	245	280	295	338
252 Tennessee Technological University	174	185	193	233	267	264	285	284
253 Forest Institute of Prof Psych	0	146	154	190	251	254	260	256
254 California Institute of Integral Studie	159	89	184	208	240	247	300	250
255 Clark University	194	217	237	238	225	237	238	253
256 Caribbean Center for Advanced Studies	358	347	373	371	248	237	213	216
257 South Dakota School of Mines and Tech	223	228	209	202	232	236	274	242
258 Marshall University	151	155	203	236	244	236	216	237
259 New Mexico Institute of Mining and Tech	209	216	225	248	250	234	217	245
260 Louisiana Tech University	213	267	290	279	242	227	263	230
Total, 1st 260 insts.	337,195	340,565	349,863	360,481	365,326	370,185	376,030	389,741
261 University of Nebraska Medical Center	244	255	218	186	207	225	263	277
262 Baylor College of Medicine	146	149	162	182	197	224	266	293
263 Medical College of Ohio at Toledo	46	42	171	162	214	222	255	292
264 Union College(NY)	142	223	278	336	239	216	176	198
265 Univ of Texas Med Branch at Galveston	173	186	198	235	248	213	231	241
266 Calif Sch of Prof Psych - Fresno	177	195	166	194	202	207	235	251
267 Stephen F. Austin State University	268	313	269	274	237	206	205	204
268 Medical College of Georgia	165	151	175	182	196	200	214	202
269 University of Arkansas - Med Sci Campus	192	198	210	218	222	195	172	197
270 University of Tennessee, Memphis	159	144	142	160	182	194	207	215
Total, 1st 270 insts.	338,907	342,421	351,852	362,610	367,470	372,287	378,254	392,111
271 Northeast Louisiana University	174	190	187	175	185	186	188	202
272 University of South Dakota	169	162	167	185	193	186	200	260
273 Andrews University	86	0	0	0	0	181	189	299
274 Wake Forest University	176	175	181	178	160	179	206	219
275 Oregon Grad Inst of Science & Technolog	89	122	146	152	155	178	148	188
276 Chicago School of Prof Psych	110	131	100	103	130	176	144	158
277 Spalding University	120	144	138	132	167	167	151	149
278 Biola University	188	124	171	168	160	166	173	190
279 University of the Pacific	77	92	87	124	141	165	156	144
280 Creighton University	46	56	144	139	150	165	136	130
Total, 1st 280 insts.	340,142	343,617	353,173	363,966	368,911	374,036	379,945	394,050
281 The Wright Institute	195	184	145	154	154	161	174	207
282 University of Health Sciences (Chicago)	88	87	84	139	119	148	117	119
283 Mercer University	0	0	0	0	107	136	144	88
284 Florida A & M University	58	57	66	63	65	135	140	153
285 Texas Christian University	116	145	140	136	133	135	143	153
286 CUNY Mt. Sinai Sch of Medicine	0	0	0	0	115	130	135	146
287 Bryn Mawr College	178	167	152	138	133	127	116	114
288 Alfred University	153	130	122	184	161	124	143	139
289 Wesleyan University	104	105	114	117	121	121	115	121
290 Thomas Jefferson University	59	71	72	74	115	118	137	158
Total, 1st 290 insts.	341,093	344,563	354,068	364,971	370,134	375,371	381,309	395,448
291 Rockefeller University	106	117	115	121	117	117	121	128
292 Uniformed Serv Univ of the Hlth Science	84	94	99	100	108	116	126	123
293 Woods Hole Oceanographic Institution	100	106	112	125	120	113	0	0
294 Albany Medical Center Graduate School	64	70	77	92	93	110	100	86
295 SUNY - Health Sci Ctr at Brooklyn	79	80	79	80	83	93	100	108
296 Oregon Health Sciences University	47	45	56	64	74	90	88	103
297 University of Northern Iowa	75	99	101	107	91	89	83	102
298 Medical University of South Carolina	84	81	87	111	85	88	108	168
299 The Medical College of Pennsylvania	67	67	69	60	90	86	92	100
300 Eastern Virginia Medical School	63	69	74	71	73	78	70	111
Total, 1st 300 insts.	341,862	345,391	354,937	365,902	371,068	376,351	382,197	396,477

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-8. Graduate science and engineering students
in doctorate-granting institutions,
ranked by 1990 total graduate science and engineering students: 1983-90

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Institutional ranking	1983	1984	1985	1986	1987	1988	1989	1990
301 CUNY Herbert H. Lehman College	60	56	54	113	73	75	75	78
302 Institute of Paper Science & Technology	100	100	99	91	95	69	45	57
303 Emerson College	42	0	0	0	0	69	74	58
304 Catholic University of Puerto Rico	16	51	48	46	58	66	61	54
305 Indiana University of Pennsylvania	163	0	0	0	0	63	103	123
306 Rand Graduate School of Policy Studies	60	57	60	62	70	60	60	48
307 Medical College of Wisconsin	67	53	57	68	61	60	84	91
308 Texas College of Osteopathic Medicine	50	35	51	58	60	59	0	0
309 Baylor College of Dentistry	46	58	48	46	52	56	57	47
310 SUNY - Health Sci Ctr at Syracuse	45	53	43	47	57	55	60	51
Total, 1st 310 insts.	342,511	345,854	355,407	366,433	371,594	376,983	382,816	397,084
311 Mayo Graduate School	18	32	46	46	53	55	74	98
312 Philadelphia Coll of Pharmacy and Sci	47	36	53	58	55	52	46	61
313 Mass College of Pharmacy/Allied Health	56	56	65	65	40	47	39	41
314 University of Maryland Eastern Shore	0	0	0	0	0	39	62	82
315 Meharry Medical College	36	37	41	32	34	36	35	47
316 Institute of Textile Technology	20	16	16	28	31	35	30	30
317 SUNY State College of Optometry	7	7	15	14	19	33	33	28
318 Maharishi International University	0	0	0	0	0	31	68	77
319 Oral Roberts University	36	39	34	27	25	23	33	0
320 Ponce School of Medicine	0	0	0	0	0	21	22	19
Total, 1st 320 insts.	342,731	346,077	355,677	366,703	371,851	377,355	383,258	397,567
321 Smith College	5	4	4	4	4	5	6	5
322 ROSEMEAD GRADUATE SCHOOL OF PSYCHOLOGY	0	0	0	0	0	0	0	0
323 University of New Orleans	0	0	0	0	0	0	0	0
324 UNIVERSITY OF OKLAHOMA HEALTH SCI CENTE	0	0	0	0	0	0	0	0
325 University of Massachusetts at Amherst	0	0	0	0	0	0	0	0
326 Providence College	0	0	0	0	0	0	0	0
327 Xavier University	0	0	0	0	0	0	76	76
328 Univ of Health Sciences (Kansas City)	0	0	0	0	0	0	0	0
329 West Virginia Sch of Osteopathic Med	0	0	0	0	0	0	0	0
330 OKLAHOMA COLL OF OSTEO MED & SURGERY	0	0	0	0	0	0	0	0
Total, 1st 330 insts.	342,736	346,081	355,681	366,707	371,855	377,360	383,340	397,648
331 DESERT RESEARCH INSTITUTE	0	0	0	0	0	0	0	0
332 UNIV OF ILLINOIS MED CENTER - CHICAGO	0	0	0	0	0	0	0	0
333 GEORGE PEABODY COLLEGE FOR TEACHERS	0	0	0	0	0	0	0	0
334 Kirksville College of Osteopathic Med	0	3	3	7	0	0	0	1
335 University of Massachusetts at Worcestre	0	0	0	0	0	0	0	0
336 ME Ohio Univ Med School	34	0	0	0	0	0	0	0
337 University of New England	0	0	0	0	0	0	0	29
338 Phila College of Osteopathic Medicine	8	8	9	0	0	0	15	12
339 HEED UNIVERSITY	0	0	0	0	0	0	0	0
340 Coll of Osteopathic Med of the Pacific	0	0	0	0	0	0	0	0
Total, 1st 340 insts.	342,778	346,092	355,693	366,714	371,855	377,360	383,355	397,690
341 UNIVERSITY OF OKLAHOMA - NORMAN	0	0	0	0	0	0	0	0
342 Pacific Grad School of Prof Psych	178	172	182	213	246	0	347	368
343 UNIVERSITY OF DALLAS	0	0	0	0	0	0	0	0
344 Univ of Texas MD Anderson Cancer Center	0	0	0	0	0	0	0	0
345 Univ. of Osteopathic Med & Health Sci	0	0	0	0	0	0	0	68
346 Morehouse School of Medicine	0	0	0	0	0	0	0	0
347 Clark Atlanta University	0	0	0	0	0	0	312	279
348 Chicago Coll of Osteo Medicine	0	0	0	0	0	0	0	0
349 Charles R. Drew Univ of Medicine & Sci	0	0	0	0	0	0	0	0
Total, 1st 349 insts.	342,956	346,264	355,875	366,927	372,101	377,360	384,014	398,405

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students
and Postdoctorates in Science and Engineering

Table F-9. Graduate science and engineering students by enrollment status and total postdoctoral appointees in master's-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoc- total appointees
Total, all institutions	60,538	20,574	39,964	50
1 Calif State Univ at Long Beach	2,209	496	1,713	0
2 San Jose State University	1,913	364	1,549	0
3 Calif State University at Northridge	1,436	499	937	0
4 University of Houston at Clear Lake Cit	1,274	334	940	0
5 Calif State Univ at Los Angeles	1,090	148	942	0
6 Calif State Univ at Fullerton	1,089	136	953	0
7 San Francisco State University	1,007	484	523	0
8 Eastern Michigan University	990	322	668	0
9 Northeastern Illinois University	969	101	868	0
10 The Hartford Graduate Center	867	16	851	0
Total, 1st 10 insts.	12,844	2,900	9,944	0
11 Rochester Institute of Technology	866	114	752	0
12 Calif State University at Sacramento	863	336	527	0
13 Calif State Univ at Hayward	857	244	613	0
14 CUNY Brooklyn College	834	275	559	7
15 John F Kennedy University	800	292	508	0
16 Loyola College	788	188	600	0
17 University of New Haven	780	161	619	0
18 Pepperdine University	731	526	205	0
19 Sangamon State University	700	137	563	0
20 Governors State University	686	43	643	0
Total, 1st 20 insts.	20,749	5,216	15,533	7
21 Southern Illinois Univ at Edwardsville	645	359	286	0
22 Calif State University at Fresno	639	343	296	0
23 Russell Sage College	627	52	575	0
24 Southwest Texas State University	611	229	382	0
25 St Mary's College of Minnesota	597	0	597	0
26 SUNY College at Brockport	562	86	476	0
27 Univ of North Carolina at Charlotte	552	172	380	5
28 Iona College	544	21	523	0
29 Middle Tennessee State University	508	103	405	0
30 National University	507	420	87	0
Total, 1st 30 insts.	26,541	7,001	19,540	12
31 Calif State University at Chico	491	329	162	0
32 National Technological University	487	0	487	0
33 Towson State University	476	119	357	0
34 CUNY Queens College	474	122	352	5
35 Calif State Polytechnic Univ at Pomona	471	102	369	0
36 Calif State Univ at Dominguez Hills	462	215	247	0
37 CUNY John Jay College of Crim Justice	459	52	407	0
38 CUNY Bernard Baruch College	451	154	297	0
39 Univ of West Virginia Coll of Grad Stds	444	66	378	0
40 St Joseph's University	428	27	401	0
Total, 1st 40 insts.	31,184	8,187	22,997	17
41 Montclair State College	414	74	340	0
42 University of West Florida	387	104	283	0
43 Western Illinois University	386	275	111	0
44 West Chester University of Pennsylvania	355	113	242	0
45 Shippensburg University of Pennsylvania	351	91	260	0
46 Hood College	344	11	333	0
47 Calif Poly State Univ at San Luis Obisp	344	275	69	0
48 Mankato State University	343	245	98	0
49 Roosevelt University	330	59	271	0
50 University of Bridgeport	326	108	218	0
Total, 1st 50 insts.	34,764	9,542	25,222	17
51 Manhattan College	325	72	253	0
52 Northrop University	323	239	84	0
53 Pittsburg State University	320	169	151	0
54 Arkansas State University	318	110	208	0
55 Murray State University	318	174	144	0
56 Milwaukee School of Engineering	316	0	316	0
57 University of Nevada at Las Vegas	311	136	175	0
58 West Coast University	309	309	0	0
59 Central Missouri State University	307	116	191	0
60 Western Washington University	306	258	48	2
Total, 1st 60 insts.	37,917	11,125	26,792	19

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-9. Graduate science and engineering students by enrollment status and total postdoctoral appointees in master's-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoc- total appointees
61 Humboldt State University	305	146	159	0
62 University of Central Arkansas	305	305	0	0
63 College of New Rochelle	304	8	296	0
64 University of Wisconsin - Oshkosh	293	89	204	0
65 University of Texas at San Antonio	286	38	248	0
66 University of Tennessee at Chattanooga	280	87	193	0
67 Monmouth College (NJ)	275	50	225	0
68 University of Wisconsin - Stout	272	208	64	0
69 University of Hartford	267	114	153	0
70 Texas A & I University	262	153	109	1
Total, 1st 70 insts.	40,766	12,323	28,443	20
71 Azusa Pacific University	260	147	113	0
72 Chapman College	260	65	195	0
73 Marist College	254	45	209	0
74 Georgia College	251	81	170	0
75 Tennessee State University	249	88	161	3
76 Bradley University	249	171	78	0
77 University of Baltimore	246	43	203	0
78 Eastern Washington University	244	149	95	0
79 Seattle University	243	55	188	0
80 Edinboro University of Pennsylvania	242	125	117	0
Total, 1st 80 insts.	43,264	13,292	29,972	23
81 North Carolina A & T State University	240	158	82	0
82 Alabama A & M University	240	196	44	11
83 Moorhead State University	239	167	72	0
84 Jackson State University	238	143	95	0
85 Western New England College	229	0	229	0
86 SUNY College at New Paltz	227	33	194	1
87 Valdosta State College	225	136	89	0
88 Loyola Marymount University	221	125	96	0
89 SUNY College at Oswego	220	91	129	0
90 Southern University A & M College	210	65	145	0
Total, 1st 90 insts.	45,553	14,406	31,147	35
91 Radford University	209	134	75	0
92 Assumption College	202	34	168	0
93 Southeastern Massachusetts University	199	88	111	0
94 Southwest Missouri State University	198	106	92	0
95 University of Texas at Tyler	197	89	108	0
96 Sonoma State University	196	42	154	0
97 Xavier University	194	181	13	0
98 Western Kentucky University	194	99	95	0
99 Appalachian State University	194	112	82	0
100 West Texas State University	191	59	132	0
Total, 1st 100 insts.	47,527	15,350	32,177	35
101 Northern Michigan University	190	68	122	0
102 Quinnipiac College	190	22	168	0
103 University of San Diego	188	27	161	0
104 Grand Valley State University	186	39	147	0
105 Calif State Univ at San Bernardino	186	91	95	0
106 Southern Connecticut State University	183	87	96	0
107 MGH Institute of Health Professions	181	97	84	0
108 Jacksonville State University	180	56	124	0
109 Eastern Kentucky University	175	98	77	0
110 Texas Southern University	175	94	81	0
Total, 1st 110 insts.	49,361	16,029	33,332	35
111 University of Alaska at Anchorage	173	48	125	0
112 American International College	170	22	148	0
113 Youngstown State University	169	61	108	0
114 Slippery Rock University of Pennsylvania	167	150	17	0
115 Corpus Christi State University	162	42	120	0
116 Troy State University at Montgomery	162	70	92	0
117 California State Univ - Bakersfield	161	68	93	0
118 University of Arkansas at Little Rock	160	56	104	1
119 St. Joseph College	160	2	158	0
120 William Paterson College	160	49	111	1
Total, 1st 120 insts.	51,005	16,597	34,408	37

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-9. Graduate science and engineering students by enrollment status and total postdoctoral appointees in master's-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoc- total appointees
121 Northwest State University	159	47	112	0
122 Eastern Illinois University	156	83	73	0
123 James Madison University	155	92	63	0
124 Rivier College	153	15	138	0
125 Chicago State University	151	8	143	0
126 Widener University	150	32	118	0
127 Midwestern State University	149	77	72	0
128 University of San Francisco	147	27	120	0
129 Drake University	144	16	128	0
130 California University of Pennsylvania	142	85	57	0
Total, 1st 130 insts.	52,511	17,079	35,432	37
131 Prairie View A & M University	141	109	32	0
132 University of La Verne	141	55	86	0
133 Anna Maria College	139	5	134	0
134 Northeastern State University	139	22	117	0
135 Emporia State University - Kansas	136	87	49	0
136 Rose-Hulman Institute of Technology	135	51	84	0
137 Kutztown University of Pennsylvania	131	24	107	0
138 Incarnate Word College	131	44	87	0
139 Marywood College	130	16	114	0
140 University of Wisconsin - Eau Claire	130	62	68	0
Total, 1st 140 insts.	53,864	17,554	36,310	37
141 Hampton University	127	84	43	0
142 University of Scranton	127	46	81	0
143 McNeese State University	126	54	72	0
144 Angelo State University	125	47	78	0
145 Western Carolina University	125	56	69	0
146 Wagner College	124	23	101	0
147 West Georgia College	120	85	35	0
148 Central Washington University	119	77	42	0
149 Tuskegee University	116	107	9	0
150 Abilene Christian University	114	74	40	0
Total, 1st 150 insts.	55,087	18,207	36,880	37
151 Calif State Univ of Stanislaus	114	88	26	0
152 Dominican College of San Rafael	107	42	65	0
153 Trinity University	105	39	66	0
154 University of Wisconsin - Stevens Point	104	95	9	0
155 Valparaiso University	103	14	89	0
156 Kean College of New Jersey	103	14	89	0
157 University of Central Texas	102	43	59	0
158 College of St Rose	102	27	75	0
159 Gannon University	99	17	82	0
160 East Stroudsburg Univ of Pennsylvania	99	44	55	0
Total, 1st 160 insts.	56,125	18,630	37,495	37
161 Eastern New Mexico University	99	6	93	0
162 Millersville University of Pennsylvania	97	28	69	0
163 Salem State College	95	1	94	0
164 University of Wisconsin - La Crosse	95	47	48	0
165 Montana College Mineral Sci & Technology	91	89	2	0
166 Bloomsburg University of Pennsylvania	89	38	51	0
167 SUNY College at Buffalo	89	7	82	0
168 College of Charleston	84	47	37	0
169 Clarion University of Pennsylvania	83	16	67	0
170 Rhode Island College	83	26	57	0
Total, 1st 170 insts.	57,030	18,935	38,095	37
171 CUNY College of Staten Island St George	82	41	41	0
172 Fort Valley State College	80	11	69	0
173 Fort Hays State University	77	48	29	0
174 North Carolina Central University	74	31	43	0
175 Georgia Southern University	73	46	27	4
176 Northwest Missouri State University	71	31	40	0
177 St. Cloud State University	70	40	30	0
178 Pacific Lutheran University	69	29	40	0
179 Morgan State University	69	37	32	0
180 Southwestern Oklahoma State University	68	21	47	0
Total, 1st 180 insts.	57,763	19,270	38,493	41

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-9. Graduate science and engineering students by enrollment status and total postdoctoral appointees in master's-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
181 University of the District of Columbia	67	34	33	0
182 University of Evansville	67	4	63	0
183 John Carroll University	64	31	33	0
184 University of North Carolina/Wilmington	64	14	50	0
185 University of Wisconsin - Whitewater	64	48	16	0
186 Morehead State University	59	39	20	0
187 Tarleton State University	58	21	37	0
188 Bucknell University	58	42	16	3
189 Kearney State College	57	18	39	0
190 New Mexico Highlands University	57	35	22	0
Total, 1st 190 insts.	58,378	19,556	38,822	44
191 Virginia State University	56	39	17	0
192 Saint Francis College	55	9	46	0
193 Frostburg State University	54	30	24	0
194 Austin Peay State University	54	34	20	0
195 Cooper Union	53	25	28	0
196 University of Texas of the Permian Basin	53	13	40	0
197 Sul Ross State University	52	41	11	0
198 SUNY College of Technology at Utica/Rome	49	15	34	0
199 Winthrop College	49	25	24	0
200 Goddard College	49	49	0	0
Total, 1st 200 insts.	58,902	19,836	39,066	44
201 University of Wisconsin - River Falls	48	17	31	0
202 Teikyo Marycrest College	47	17	30	0
203 SUNY College at Geneseo	46	39	7	0
204 Augusta College	45	25	20	0
205 Washington College	45	0	45	0
206 Sarah Lawrence College	44	42	2	0
207 Nicholls State University	43	25	18	0
208 Southeast Missouri State University	43	26	17	0
209 St Mary's University of San Antonio	39	6	33	0
210 SUNY College at Plattsburgh	38	30	8	0
Total, 1st 210 insts.	59,340	20,063	39,277	44
211 University of Portland	37	2	35	0
212 University of Wisconsin - Green Bay	37	19	18	0
213 Coppin State College	35	2	33	0
214 Trenton State College	35	4	31	0
215 Butler University	34	0	34	0
216 Bridgewater State College	34	1	33	0
217 Trinity College	34	0	34	0
218 Wilkes University	33	4	29	0
219 Central Connecticut State University	33	10	23	0
220 Gallaudet University	32	32	0	0
Total, 1st 220 insts.	59,684	20,137	39,547	44
221 Washburn University of Topeka	31	15	16	0
222 Jacksonville University	31	2	29	0
223 Mississippi University for Women	31	13	18	0
224 Southeastern Louisiana University	30	26	4	0
225 Northeast Missouri State University	30	22	8	0
226 University of Houston - Victoria	29	8	21	0
227 Southern Oregon State College	28	20	8	0
228 University of Redlands	28	24	4	0
229 Lincoln University	27	24	3	0
230 University of Montevallo	25	16	9	0
Total, 1st 230 insts.	59,974	20,289	39,685	44
231 University of Wisconsin - Platteville	24	11	13	0
232 University of Richmond	23	16	7	0
233 Williams College	23	23	0	0
234 Fisk University	23	22	1	4
235 Loras College	22	0	22	0
236 Bemidji State University	22	4	18	0
237 SUNY College at Fredonia	21	6	15	0
238 Delaware State College	21	1	20	0
239 University of Alaska Southeast	20	4	16	0
240 Pacific States University	20	10	10	0
Total, 1st 240 insts.	60,193	20,386	39,807	48

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-9. Graduate science and engineering students by enrollment status and total postdoctoral appointees in master's-granting institutions, ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
241 Indiana Wesleyan University	20	8	12	0
242 Connecticut College	19	18	1	0
243 Ithaca College	19	10	9	0
244 Western Connecticut State University	19	0	19	0
245 Saint Martin's College	18	3	15	0
246 Framingham State College	18	7	11	0
247 Pratt Institute	17	11	6	0
248 St Bonaventure University	15	12	3	0
249 Niagara University	15	8	7	0
250 SUNY College at Cortland	14	8	6	0
Total, 1st 250 insts.	60,367	20,471	39,896	48
251 West Virginia Institute of Technology	14	10	4	0
252 Drew University	13	7	6	0
253 Alabama State University	13	9	4	0
254 Mansfield University of Pennsylvania	12	7	5	0
255 Whitworth College	11	6	5	0
256 Mount Holyoke College	11	11	0	0
257 Hollins College	10	8	2	0
258 Gonzaga University	10	7	3	0
259 Worcester State College	10	0	10	0
260 Grambling State University	9	8	1	0
Total, 1st 260 insts.	60,480	20,544	39,936	48
261 The University of Texas - Pan American	9	1	8	0
262 East Central University	8	0	8	0
263 University of Charleston	7	0	7	0
264 Harvey Mudd College	7	7	0	0
265 Pacific University	6	6	0	0
266 SUNY College at Potsdam	5	5	0	0
267 Furman University	4	4	0	0
268 Vassar College	3	3	0	0
269 Walla Walla College	3	3	0	0
270 Middlebury College	2	2	0	1
Total, 1st 270 insts.	60,534	20,570	39,964	49
271 Loyola University in New Orleans	2	2	0	0
272 Occidental College	1	1	0	0
273 SUNY College at Oneonta	1	1	0	0
274 Marlboro College	0	0	0	0
275 Swarthmore College	0	0	0	1
276 University of Guam	0	0	0	0
Total, 1st 276 insts.	60,538	20,574	39,964	50

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table F-10. Graduate science and engineering students by enrollment status and total postdoctoral appointees in historically black colleges and universities, ranked by total graduate science and engineering students: 1990

Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
Total, all institutions	3,628	2,139	1,489	60
1 Howard University	781	429	352	12
2 Clark Atlanta University	279	191	88	3
3 Tennessee State University	249	88	161	0
4 North Carolina A & T State University	240	158	82	0
5 Alabama A & M University	240	196	44	11
6 Jackson State University	238	143	95	0
7 Southern University A & M College	210	65	145	0
8 Texas Southern University	175	94	81	0
9 Florida A & M University	153	122	31	2
10 Prairie View A & M University	141	109	32	0
Total, 1st 10 insts.	2,706	1,595	1,111	31
11 Hampton University	127	84	43	0
12 Tuskegee University	116	107	9	0
13 University of Maryland Eastern Shore	82	41	41	0
14 Fort Valley State College	80	11	69	0
15 Xavier University	76	65	11	7
16 North Carolina Central University	74	31	43	0
17 Morgan State University	69	37	32	0
18 University of the District of Columbia	67	34	33	0
19 Virginia State University	56	39	17	0
20 Meharry Medical College	47	47	0	5
Total, 1st 20 insts.	3,500	2,091	1,409	43
21 Coppin State College	35	2	33	0
22 Lincoln University	27	6	21	0
23 Fisk University	23	22	1	4
24 Delaware State College	21	1	20	0
25 Alabama State University	13	9	4	0
26 Grambling State University	9	8	1	0
27 Morehouse School of Medicine	0	0	0	13
Total, 1st 27 insts.	3,628	2,139	1,489	60

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table F-11. Graduate science and engineering students by enrollment status
and total postdoctoral appointees in land-grant institutions
ranked by total graduate science and engineering students: 1990

Page 1 of 2

Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
Total, all institutions	141,953	111,659	30,294	10,461
1 University of Wisconsin - Madison	5,746	5,099	647	447
2 University of Minnesota	2,610	2,648	962	373
3 University of Calif at Berkeley	2,274	2,274	0	973
4 Ohio State University	2,188	2,474	714	266
5 Texas A & M University	2,927	4,145	782	205
6 University of Illinois at Urbana	4,894	4,805	89	241
7 Pennsylvania State University	4,700	3,101	1,599	161
8 University of Calif at Los Angeles	4,523	4,444	79	665
9 Rutgers the State University	4,249	2,181	2,068	170
10 Massachusetts Institute of Technology	4,245	4,156	89	406
Total, 1st 10 insts.	49,356	42,327	7,029	3,907
11 University of Maryland - College Park	3,931	2,372	1,559	137
12 Purdue University	3,915	3,568	347	217
13 Cornell University	3,408	3,408	0	445
14 University of Arizona	3,377	2,792	585	282
15 Virginia Polytechnic Inst and State Uni	2,275	2,435	840	63
16 University of Massachusetts	2,251	1,512	1,739	221
17 University of Illinois at Chicago	1,121	1,936	1,185	151
18 North Carolina State Univ at Raleigh	3,045	2,451	594	168
19 Michigan State University	2,993	2,527	466	207
20 Iowa State University of Sci & Tech	2,755	2,272	483	81
Total, 1st 20 insts.	82,427	67,600	14,827	5,879
21 University of Calif at Davis	2,717	2,597	120	251
22 University of Tennessee at Knoxville	2,668	1,555	1,113	136
23 Louisiana State University System	2,567	2,039	528	198
24 University of Hawaii at Manoa	1,984	1,655	329	68
25 University of Missouri - Columbia	1,983	1,289	694	81
26 University of Calif at San Diego	1,941	1,814	127	715
27 University of Kentucky	1,906	1,485	421	123
28 Colorado State University	1,870	1,599	271	184
29 Oregon State University	1,795	1,657	138	73
30 Oklahoma State University	1,721	826	895	29
Total, 1st 30 insts.	103,579	83,916	19,663	7,737
31 Auburn University	1,699	895	804	31
32 University of Georgia	1,653	1,449	204	139
33 Kansas State University	1,532	1,307	225	69
34 University of Calif at Santa Barbara	1,525	1,505	20	167
35 West Virginia University	1,522	1,037	485	50
36 Clemson University	1,500	1,123	377	18
37 Florida State University	1,483	1,076	407	90
38 University of Delaware	1,357	1,024	333	58
39 University of Rhode Island	1,310	872	438	33
40 University of Calif at Irvine	1,279	1,196	83	235
Total, 1st 40 insts.	118,439	95,400	23,039	8,627
41 Washington State University	1,271	1,130	141	87
42 University of Puerto Rico - Rio Piedras	1,235	812	423	7
43 Utah State University	1,234	1,047	187	31
44 University of Missouri - Rolla	1,224	582	642	5
45 Mississippi State University	1,087	898	189	24
46 University of Calif at San Francisco	1,083	1,069	14	981
47 University of Idaho	1,048	540	508	44
48 University of Maryland - Balt Prof Sch	965	464	501	75
49 University of Maryland - Baltimore Cnty	913	524	389	14
50 University of Arkansas	911	729	182	24
Total, 1st 50 insts.	129,410	103,195	26,215	9,919
51 New Mexico State University	883	637	246	24
52 University of Nevada at Reno	872	463	409	44
53 University of Wyoming	851	641	210	25
54 University of Missouri - Kansas City	812	281	531	16
55 University of Calif at Riverside	711	684	27	131
56 University of New Hampshire	683	546	137	9
57 University of Maine	660	506	154	14
58 University of Puerto Rico Med Sci Campu	657	430	227	1
59 University of Vermont & St Agric Colleg	625	492	133	78
60 University of Calif at Santa Cruz	608	600	8	45
Total, 1st 60 insts.	136,772	108,475	28,297	10,306

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-11. Graduate science and engineering students by enrollment status
and total postdoctoral appointees in land-grant institutions
ranked by total graduate science and engineering students: 1990

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Institutional ranking	Total students	Full-time students	Part-time students	Postdoctoral appointees
61 North Dakota State University	560	482	78	18
62 University of Nebraska - Omaha	505	95	410	0
63 South Dakota State University	493	306	187	5
64 University of Alaska at Fairbanks	487	326	161	7
65 Montana State University	483	442	41	32
66 University of Puerto Rico	358	354	4	0
67 University of Missouri - St Louis	316	108	208	11
68 University of Tennessee at Chattanooga	280	87	193	0
69 Tennessee State University	249	88	161	3
70 North Carolina A & T State University	240	158	82	0
Total, 1st 70 insts.	140,743	110,921	29,822	10,382
71 Alabama A & M University	240	196	44	11
72 University of Tennessee, Memphis	215	155	60	66
73 Southern University A & M College	210	65	145	0
74 Florida A & M University	153	122	31	2
75 Prairie View A & M University	141	109	32	0
76 Fort Valley State College	80	11	69	0
77 University of the District of Columbia	67	34	33	0
78 Virginia State University	56	39	17	0
79 Lincoln University	27	6	21	0
80 Delaware State College	21	1	20	0
Total, 1st 80 insts.	141,953	111,659	30,294	10,461

NOTE: Includes medical schools.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table F-12. Graduate students in the science, engineering, and health fields
in medical schools by area,
ranked by total graduate students in surveyed fields: 1990

Page 1 of 3

Institutional ranking	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
Total, all institutions	26,051	13,976	256	11,819
1 The University of Alabama at Birmingham	1,113	336	0	777
2 University of Calif at San Francisco	1,083	391	27	665
3 Univ of Texas Hlth Sci Ctr at Houston	919	400	0	519
4 University of Oklahoma	804	188	0	616
5 University of Iowa	751	196	0	555
6 Columbia University Main Division	717	210	0	507
7 Yale University	703	478	0	225
8 University of Puerto Rico Med Sci Campus	657	77	0	580
9 Emory University	614	196	0	418
10 Boston University	561	283	0	278
Total, 1st 10 insts.	7,922	2,755	27	5,140
11 University of Florida	548	142	0	406
12 University of Colorado	537	135	0	402
13 Hahnemann University	506	340	0	166
14 Univ of North Carolina at Chapel Hill	476	309	37	130
15 Rush University	471	95	0	376
16 Univ of Texas Hlth Sci Ctr San Antonio	465	130	0	335
17 University of Kansas	403	103	0	300
18 University of Michigan	385	285	0	100
19 Loma Linda University	382	62	0	320
20 Tulane University of Louisiana	365	0	0	365
Total, 1st 20 insts.	12,460	4,356	64	8,040
21 University of Washington	363	236	81	46
22 Indiana University	350	220	0	130
23 University of Rochester	333	247	0	86
24 Univ of Texas SW Medical Ctr at Dallas	321	243	25	53
25 University of Cincinnati	319	184	0	135
26 Baylor College of Medicine	293	239	0	54
27 Medical College of Ohio at Toledo	292	0	0	292
28 Univ of Med and Dent of New Jersey	284	231	0	53
29 Duke University	284	268	0	16
30 Case Western Reserve University	284	232	0	52
Total, 1st 30 insts.	15,583	6,456	170	8,957
31 University of Wisconsin - Madison	281	162	0	119
32 University of Calif at Los Angeles	279	179	0	100
33 University of Nebraska Medical Center	277	67	0	210
34 University of Connecticut	276	80	0	196
35 Northwestern University	263	204	0	59
36 New York Medical College	257	107	0	150
37 Wayne State University	256	221	0	35
38 Ohio State University	248	132	0	116
39 University of Minnesota	244	224	0	20
40 Univ of Texas Med Branch at Galveston	241	112	0	129
Total, 1st 40 insts.	18,205	7,944	170	10,091
41 University of Virginia	236	151	52	33
42 Johns Hopkins University	234	165	34	35
43 Stanford University	219	182	0	37
44 University of Southern California	218	181	0	37
45 University of Tennessee, Memphis	215	110	0	105
46 Temple University	213	121	0	92
47 University of Calif at San Diego	203	93	0	110
48 Medical College of Georgia	202	78	0	124
49 New York University	198	136	0	62
50 University of Arkansas - Med Sci Campus	197	49	0	148
Total, 1st 50 insts.	20,340	9,210	256	10,874
51 Yeshiva University	192	167	0	25
52 Louisiana State University System	189	183	0	6
53 Georgetown University	189	189	0	0
54 Vanderbilt University	188	142	0	46
55 SUNY - Buffalo	177	148	0	29
56 University of Utah	175	101	0	74
57 Cornell University	172	172	0	0
58 Medical University of South Carolina	168	146	0	22
59 University of Miami	164	164	0	0
60 Thomas Jefferson University	158	99	0	59
Total, 1st 60 insts.	22,112	10,721	256	11,135

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-12. Graduate students in the science, engineering, and health fields
in medical schools by area,
ranked by total graduate students in surveyed fields: 1990

Page 2 of 3

Institutional ranking	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
61 Tufts University	157	146	0	11
62 Washington University	151	14	0	137
63 CUNY Mt. Sinai Sch of Medicine	146	146	0	0
64 University of Calif at Irvine	136	96	0	40
65 St. Louis University	124	88	0	36
66 Uniformed Serv Univ of the Hlth Science	123	92	0	31
67 University of Health Sciences (Chicago)	119	115	0	4
68 SUNY - Stony Brook	117	115	0	2
69 University of Hawaii at Manoa	116	81	0	35
70 University of Mississippi	115	67	0	48
Total, 1st 70 insts.	23,416	11,681	256	11,479
71 University of Kentucky	112	108	0	4
72 Eastern Virginia Medical School	111	111	0	0
73 Pennsylvania State University	108	91	0	17
74 University of Arizona	108	108	0	0
75 SUNY - Health Sci Ctr at Brooklyn	108	94	0	14
76 Loyola University of Chicago	107	107	0	0
77 University of Pittsburgh	104	104	0	0
78 Wake Forest University	103	99	0	4
79 Oregon Health Sciences University	103	102	0	1
80 University of Massachusetts	101	90	0	11
Total, 1st 80 insts.	24,481	12,695	256	11,530
81 The Medical College of Pennsylvania	100	72	0	28
82 University of Vermont & St Agric Colleg	99	83	0	16
83 Mayo Graduate School	98	84	0	14
84 Medical College of Wisconsin	91	91	0	0
85 University of Louisville	88	88	0	0
86 Albany Medical Center Graduate School	86	70	0	16
87 Creighton University	77	23	0	54
88 University of Nevada at Reno	75	30	0	25
89 Dartmouth College	72	72	0	0
90 Howard University	72	72	0	0
Total, 1st 90 insts.	25,339	13,400	256	11,683
91 Univ. of Osteopathic Med & Health Sci	68	0	0	68
92 George Washington University	68	67	0	1
93 West Virginia University	64	61	0	3
94 University of South Carolina	56	56	0	0
95 University of New Mexico	54	54	0	0
96 University of South Alabama	53	53	0	0
97 SUNY - Health Sci Ctr at Syracuse	51	50	0	1
98 Meharry Medical College	47	47	0	0
99 Baylor College of Dentistry	47	3	0	44
100 University of South Florida	44	44	0	0
Total, 1st 100 insts.	25,891	13,835	256	11,800
101 East Carolina University	40	40	0	0
102 Texas Tech University	36	36	0	0
103 Marshall University	23	23	0	0
104 University of South Dakota	22	22	0	0
105 Ponce School of Medicine	19	19	0	0
106 Phila College of Osteopathic Medicine	12	0	0	12
107 Mercer University	4	0	0	4
108 Virginia Commonwealth University	3	1	0	3
109 Kirksville College of Osteopathic Med	1	1	0	0
110 Morehouse School of Medicine	0	0	0	0
Total, 1st 110 insts.	26,051	13,976	256	11,819
111 NE Ohio Univ Med School	0	0	0	0
112 West Virginia Sch of Osteopathic Med	0	0	0	0
113 Texas College of Osteopathic Medicine	0	0	0	0
114 Ohio University	0	0	0	0
115 New York Institute of Technology	0	0	0	0
116 Univ of Texas MD Anderson Cancer Center	0	0	0	0
117 University of Pennsylvania	0	0	0	0
118 University of Missouri - Columbia	0	0	0	0
119 Univ of Health Sciences (Kansas City)	0	0	0	0
120 Harvard University	0	0	0	0
Total, 1st 120 insts.	26,051	13,976	256	11,819

See explanatory information, if any, and SOURCE(S) at end of table.

Table F-12. Graduate students in the science, engineering, and health fields
in medical schools by area,
ranked by total graduate students in surveyed fields: 1990

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Institutional ranking	Total, all surveyed fields	Sciences, total	Engi- neering, total	Health fields
121 University of New England	0	0	0	0
122 University of Chicago	0	0	0	0
123 Chicago Coll of Osteo Medicine	0	0	0	0
124 Charles R. Drew Univ of Medicine & Sci	0	0	0	0
Total, 1st 124 insts.	26,051	13,976	256	11,819

SOURCE: National Science Foundation/SRS, Survey of Graduate Students
and Postdoctorates in Science and Engineering

Section II

Technical Notes

The Survey Universe

The data published in this report for the fall 1990 Survey of Graduate Students and Postdoctorates in Science and Engineering (GSESP) represent national estimates of graduate enrollment and postdoctorate employment at the beginning of academic year 1990/91; the survey universe included all academic institutions in the United States that granted doctorate or master's degrees in any science or engineering (S&E) field. Included are data for all branch campuses, affiliated research centers, and separately organized components such as medical or dental schools, schools of nursing, public health, etc. The survey universe consisted of 730 reporting units at 610 graduate institutions. Included were 454 reporting units associated with 334 doctorate-granting institutions, and 276 master's-granting institutions.

The National Science Foundation (NSF) has collected data on graduate S&E enrollment and postdoctorates since 1966. From fall 1966 through fall 1971, data were collected from a limited number of doctorate-granting institutions through the NSF Graduate Traineeship Program, which requested data only on those S&E fields supported by NSF. Beginning with the fall 1972 survey, this data collection effort was assigned to the Universities and Nonprofit Institutions Studies Group and was gradually expanded during the period 1972-75 to include additional S&E fields as well as all institutions known to have programs leading to the master's or doctorate degree. Because of this expansion of coverage, data for 1974 and earlier years are not strictly comparable with 1975 and later data. Table II-1 shows the number of institutions, reporting units, and departments at each level included in the data, as well as the total enrollment reported for each year between 1966 and 1989. No attempt has been made to inflate the data for 1966-74 to reflect universe totals.

Beginning with the 1984/85 academic year, master's-granting institutions were surveyed on a sample basis. The fall 1988 survey included the entire survey population for the first time since 1983/84. Four institutions participated in the survey for the first time this year. (See Survey Methodology, p. 5.)

Tables II-2 and II-3 present data on departmental coverage by S&E field for each year covered by the trend data shown in section I, subsections B and C.

The Survey Instruments

The Departmental or Program Data Sheet (NSF form 812) on which data were reported in fall 1989 was identical to the fall 1988 version, except for changes in the instructions to clarify some data items. Each survey package also included (1) a flier explaining NSF's academic S&E surveys; (2) a List of Departments or Programs (NSF form 811) generated individually by computer for each institution surveyed, based on the departments known to exist

Table II-1. The NSF data collection series: 1966-90

Series and year	Number of institutions surveyed	Number of reporting units	Number of departments			Graduate enrollment in surveyed fields		
			Total	Master's	Doctorate	Total	Full-time	Part-time
A. Graduate Traineeship Program								
1966	204	204	2,866	441	2,425	169,303	124,255	45,048
1967	209	209	3,014	434	2,580	179,622	133,972	45,650
1968	219	219	3,190	454	2,736	184,759	140,714	44,045
1969	224	224	3,354	460	2,894	196,341	147,515	48,826
1970	227	227	3,544	473	3,071	201,918	153,250	48,668
1971	224	249	3,397	407	2,990	214,680	164,764	49,916
B. Survey of Graduate Science and Engineering Students and Postdoctorates 1/								
Doctorate institutions								
1972 2/	260	328	4,593	780	3,813	210,895	161,329	49,566
1973	254	336	6,543	862	5,681	214,787	161,858	52,929
1974	279	369	7,496	1,409	6,087	260,970	191,266	69,724
1975	303	400	7,802	1,622	6,180	291,947	206,797	85,150
1976	311	409	7,892	1,671	6,221	295,526	210,117	85,409
1977	313	416	8,112	1,794	6,318	303,448	212,576	90,872
1978	311	420	8,150	1,759	6,391	299,971	209,380	90,591
1979	329	447	8,353	1,863	6,490	312,816	216,801	96,015
1980	328	446	8,458	1,913	6,545	325,846	223,012	99,834
1981	328	444	8,397	1,916	6,481	325,702	222,921	102,781
1982	327	444	8,250	1,899	6,351	336,221	229,993	106,228
1983	327	443	8,139	1,877	6,262	342,071	236,676	105,395
1984	324	444	8,175	1,880	6,295	344,431	237,460	106,971
1985	324	440	8,292	1,915	6,377	350,022	241,605	108,417
1986	324	441	8,366	1,930	6,436	362,163	250,470	111,693
1987	329	448	8,495	1,942	6,553	372,461	254,865	117,596
1988	334	454	8,707	1,993	6,714	377,674	259,848	117,826
1989	334	453	8,839	2,014	6,825	385,025	267,554	117,471
1990	334	454	8,967	2,056	6,911	398,405	275,262	123,143
Master's institutions								
1975 3/	283	283	1,224	1,224	N/A	37,711	13,692	24,019
1976	285	285	1,242	1,242	N/A	39,234	13,998	25,236
1977	289	289	1,211	1,211	N/A	43,608	15,286	28,322
1978 4/	2	2	18	18	N/A	45,216	15,692	29,524
1979	301	301	1,374	1,374	N/A	47,178	16,288	30,890
1980	299	299	1,388	1,388	N/A	47,047	16,843	30,204
1981	295	295	1,387	1,387	N/A	48,402	16,750	31,652
1982	283	283	1,387	1,387	N/A	48,835	16,225	32,610
1983	283	283	1,388	1,388	N/A	50,977	17,659	33,318
1984 5/	88	88	669	669	N/A	51,747	18,137	33,610
1985 5/	88	88	686	686	N/A	51,920	17,862	34,058
1986 5/	88	88	689	689	N/A	52,175	17,934	34,241
1987 5/	88	88	697	697	N/A	52,897	18,569	34,328
1988	277	277	1,424	1,424	N/A	52,157	18,319	33,838
1989	275	275	1,479	1,479	N/A	55,958	19,065	36,893
1990	276	276	1,516	1,516	N/A	60,538	20,574	39,964

1/ The name of the survey was changed in 1981 to specify the inclusion of engineering.

2/ The 1972 survey of doctorate-granting institutions included selected data items for 1971.

3/ The 1976 survey of master's-granting institutions included selected data items for 1975.

4/ The 1978 survey did not include master's institutions. Two institutions were subsequently changed from doctorate- to master's-granting. Totals represent estimates based on 1977 and 1979 data.

5/ Master's-granting institutions were surveyed on a sample basis from 1984 through 1987.

NOTE: N/A = Not applicable

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table II-2. Science and engineering departmental population at doctorate-granting institutions by field: 1982-90

Field	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total, all surveyed fields	8,246	8,136	8,172	8,287	8,358	8,482	8,693	8,823	8,967
Total, science/engineering fields	5,878	5,869	5,878	5,959	5,998	6,106	6,283	6,366	6,440
Engineering, total	1,055	1,058	1,068	1,108	1,119	1,164	1,192	1,201	1,229
Aerospace	35	35	35	36	36	38	41	41	42
Agricultural	38	38	40	42	41	40	40	40	41
Biomedical	39	38	42	42	41	46	49	50	51
Chemical	123	125	127	127	127	129	130	133	134
Civil	167	170	169	176	181	184	187	183	187
Electrical	156	158	159	167	167	179	183	188	193
Engineering science	35	32	32	34	35	35	36	35	36
Industrial	97	96	99	104	105	113	120	126	128
Mechanical	154	156	157	166	169	175	177	173	176
Metallurgical/materials	68	69	69	72	72	73	74	79	82
Mining	23	25	25	26	25	29	29	26	27
Nuclear	30	29	29	29	28	27	27	27	26
Petroleum	15	15	16	16	16	19	19	19	19
Engineering, n.e.c.	75	72	69	71	76	77	80	81	87
Sciences, total	4,823	4,811	4,810	4,851	4,879	4,942	5,091	5,165	5,211
Physical sciences	521	521	521	521	528	527	531	536	534
Astronomy	32	32	32	33	33	33	33	33	33
Chemistry	250	250	250	249	250	250	252	255	254
Physics	234	233	229	228	230	228	232	235	234
Physical sciences, n.e.c.	5	6	10	11	15	16	14	13	13
Earth, atmospheric, and ocean sciences	288	286	283	290	291	295	301	303	308
Atmospheric sciences	28	27	27	27	27	28	28	28	28
Geosciences	187	187	186	188	189	187	191	191	193
Oceanography	34	33	33	36	36	37	37	41	41
Earth, atmos., and ocean sci., n.e.c.	39	39	37	39	39	43	45	43	46
Mathematical sciences	335	333	333	331	335	338	344	348	354
Computer sciences	138	146	153	181	193	209	215	217	230
Agricultural sciences	275	275	274	274	274	272	275	279	289
Biological sciences	1,762	1,756	1,756	1,765	1,771	1,799	1,822	1,833	1,830
Anatomy	121	121	118	116	113	114	113	115	107
Biochemistry	182	183	182	186	188	189	191	193	187
Biology	213	214	210	210	213	216	220	222	226
Biometry/epidemiology	39	40	41	44	47	48	49	50	52
Biophysics	33	29	30	27	30	31	31	32	31
Botany	110	108	110	110	109	110	112	111	107
Cell biology	54	57	60	64	73	82	87	88	92
Ecology	23	23	23	23	22	22	23	26	27
Entomology/parasitology	47	46	46	49	48	47	48	47	48
Genetics	60	59	60	60	60	61	64	65	66
Microbiology	226	228	229	233	229	231	233	232	236
Nutrition	95	94	91	92	93	98	98	98	102
Pathology	149	148	148	146	146	149	147	145	144
Pharmacology	176	174	171	169	165	165	167	166	163
Physiology	146	144	143	143	143	146	146	150	145
Zoology	58	56	53	56	57	55	54	52	51
Biosciences, n.e.c.	30	33	37	37	35	35	39	41	46
Psychology	334	336	338	340	341	349	421	444	457
Social sciences	1,170	1,158	1,152	1,149	1,146	1,153	1,182	1,205	1,209
Agricultural economics	49	50	51	52	52	51	51	52	52
Anthropology	114	112	113	115	113	115	116	117	120
Economics (except agricultural)	192	187	186	187	188	190	193	193	194
Geography	98	98	97	96	96	96	95	93	93
History and philosophy of science	26	26	26	23	22	24	24	24	24
Linguistics	63	63	61	62	61	65	68	69	68
Political science	285	284	283	281	278	278	293	299	295
Sociology	170	169	164	164	161	163	161	167	168
Sociology/anthropology	34	33	34	33	34	33	33	32	33
Social sciences, n.e.c.	139	136	137	136	141	138	148	158	162
Total, health fields	2,368	2,267	2,294	2,328	2,360	2,376	2,410	2,457	2,527
Anesthesiology	87	81	82	82	81	80	79	82	82
Oncology/cancer research	25	25	26	29	32	31	31	35	35
Cardiology	81	70	69	69	69	68	67	67	67
Dentistry	81	81	82	84	82	83	83	85	84
Endocrinology	77	71	70	69	70	69	71	72	73
Gastroenterology	74	67	66	65	65	64	64	64	65
Hematology	78	71	70	70	71	71	70	68	67
Neurology	104	104	107	108	112	113	118	122	126
Nursing	101	101	101	103	110	112	115	116	119
Obstetrics/gynecology	93	86	87	89	89	90	91	91	92
Ophthalmology	84	77	78	78	77	76	76	77	79
Otorhinolaryngology	75	67	68	67	67	67	68	68	70
Pediatrics	104	101	101	100	101	105	106	105	107
Pharmaceutical sciences	81	78	79	79	80	81	78	83	87
Preventive medicine/community health	148	141	141	151	153	154	156	157	164
Psychiatry	96	92	93	92	92	94	92	98	101
Pulmonary disease	69	65	64	63	64	63	62	63	63
Radiology	117	110	113	114	113	116	119	120	123
Speech pathology/audiology	121	120	120	124	123	122	123	124	127
Surgery	215	208	213	213	214	213	216	216	221
Veterinary sciences	33	33	34	33	34	35	36	37	41
Clinical medicine, n.e.c.	286	277	288	298	306	308	314	318	334
Health related, n.e.c.	138	141	142	148	155	161	175	189	200

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table 11-3. Science and engineering departmental population at master's-granting institutions by field: 1982-90

Field	1982	1983	1984 1/	1985 1/	1986 1/	1987 1/	1988	1989	1990
Total, all surveyed fields	1,386	1,387	669	686	689	696	1,421	1,476	1,516
Total, science/engineering fields	1,243	1,244	594	608	611	617	1,256	1,305	1,334
Engineering, total	149	152	97	103	105	108	170	186	199
Aerospace	1	2	3	3	3	3	3	3	3
Agricultural	0	0	0	0	0	0	0	0	0
Biomedical	3	3	2	2	2	2	3	3	3
Chemical	7	4	4	4	4	4	3	3	3
Civil	25	25	15	15	16	17	30	33	33
Electrical	30	30	18	18	19	19	36	43	49
Engineering science	6	5	4	4	4	4	3	2	2
Industrial	26	26	14	15	15	17	27	31	32
Mechanical	16	18	14	15	17	16	23	26	29
Metallurgical/materials	3	3	3	4	4	4	4	4	4
Mining	0	0	0	0	0	0	0	0	0
Nuclear	1	1	1	2	2	2	2	2	2
Petroleum	0	0	0	0	0	0	0	0	0
Engineering, n.e.c.	26	27	15	16	14	15	25	26	28
Sciences, total	1,094	1,092	497	505	506	509	1,086	1,119	1,135
Physical sciences	152	144	69	69	72	71	139	138	141
Astronomy	0	0	0	0	0	0	0	0	0
Chemistry	94	91	44	44	45	44	88	89	90
Physics	48	43	19	19	19	19	40	36	38
Physical sciences, n.e.c.	10	10	6	6	8	8	11	13	13
Earth, atmospheric, and ocean sciences	54	52	26	26	26	27	56	57	56
Atmospheric sciences	1	1	1	1	1	1	1	1	1
Geosciences	28	28	11	11	12	13	34	34	34
Oceanography	3	4	3	3	3	4	5	6	6
Earth, atmos., and ocean sci., n.e.c.	22	19	11	11	10	9	16	16	15
Mathematical sciences	119	118	44	44	43	43	111	115	113
Computer sciences	37	45	28	32	35	35	76	81	84
Agricultural sciences	22	23	10	10	10	12	29	31	26
Biological sciences	203	205	92	94	90	90	191	194	192
Anatomy	0	0	0	0	0	0	0	0	0
Biochemistry	2	2	2	2	2	3	2	2	2
Biology	155	153	53	54	53	51	147	149	148
Biometry/epidemiology	0	0	0	0	0	0	0	0	0
Biophysics	0	0	0	0	0	0	0	0	0
Botany	5	6	6	6	5	5	4	4	4
Cell biology	0	0	0	0	0	0	0	0	0
Ecology	2	3	3	3	3	3	3	3	3
Entomology/parasitology	0	0	0	0	0	0	0	0	0
Genetics	1	1	1	1	1	1	1	1	1
Microbiology	6	5	5	5	5	5	4	4	3
Nutrition	12	13	7	8	8	8	13	13	13
Pathology	2	2	2	2	2	2	2	2	2
Pharmacology	1	1	1	1	1	1	1	1	1
Physiology	0	0	0	0	0	0	0	0	0
Zoology	5	7	7	7	7	4	3	3	3
Biosciences, n.e.c.	12	12	7	7	7	7	11	12	12
Psychology	185	190	66	66	69	70	198	212	225
Social sciences	322	315	162	164	161	161	286	291	298
Agricultural economics	3	3	3	3	3	2	2	2	2
Anthropology	11	13	12	12	11	11	11	11	12
Economics (except agricultural)	41	38	24	24	23	22	35	37	36
Geography	25	25	15	16	15	15	22	22	23
History and philosophy of science	0	0	0	0	0	0	0	0	0
Linguistics	4	4	4	5	5	5	7	7	5
Political science	120	117	50	50	51	51	110	112	114
Sociology	44	43	21	22	23	23	43	43	44
Sociology/anthropology	6	6	5	5	4	4	5	4	3
Social sciences, n.e.c.	68	66	28	28	26	28	51	53	59
Total, health fields	143	143	75	78	78	79	165	171	182
Anesthesiology	0	0	0	0	0	0	0	0	0
Oncology/cancer research	0	0	0	0	0	0	0	0	0
Cardiology	1	1	1	1	1	1	0	0	0
Dentistry	0	0	0	0	0	0	0	0	0
Endocrinology	0	0	0	0	0	0	0	0	0
Gastroenterology	0	0	0	0	0	0	0	0	0
Hematology	0	0	0	0	0	0	0	0	0
Neurology	1	1	1	1	1	1	1	1	1
Nursing	25	25	14	16	17	17	46	50	52
Obstetrics/gynecology	0	0	0	0	0	0	0	0	0
Ophthalmology	0	0	0	0	0	0	0	0	0
Otorhinolaryngology	0	0	0	0	0	0	0	0	0
Pediatrics	0	0	0	0	0	0	0	0	0
Pharmaceutical sciences	0	0	0	0	0	0	0	0	0
Preventive medicine/community health	0	0	0	0	0	0	0	0	0
Psychiatry	0	0	0	0	0	0	0	0	0
Pulmonary disease	0	0	0	0	0	0	0	0	0
Radiology	52	51	22	23	22	22	50	52	57
Speech pathology/audiology	0	0	0	0	0	0	0	0	0
Surgery	1	1	1	1	1	1	1	1	1
Veterinary sciences	9	8	5	5	5	5	5	5	4
Clinical medicine, n.e.c.	0	0	0	0	0	0	0	0	0
Health related, n.e.c.	46	47	24	24	24	25	54	54	59

1/ Number of departments in sampled institutions.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

in the previous survey cycle; (3) a "Crosswalk" showing the NCES instructional program codes corresponding to each S&E field as defined by NSF; (4) a flow chart for use by those institutions using computerized records to compile their submissions; and (5) a postcard on which the institutions were to indicate any changes in coordinator name, address, or telephone number.

Survey Methodology

The survey packages were mailed out by November 2, 1990. The final survey universe consisted of 730 responding units at 610 institutions.

On the acknowledgment postcard, information was requested from institutional coordinators on the sources of the data reported, whether the data were maintained at a central location or collected from the individual departments and whether derived from a computerized data base or hand-tabulated. Of the 730 responding units surveyed, coordinators at 654 units, or 90 percent, provided this information. The responding coordinators indicated the following distribution of data sources:

School reporting data sources	654	100.0%
Computerized central records	59	9.0
Automated with departmental input	8	1.2
Hand tabulated at institution level	55	8.4
Hand tabulated at department level	167	25.5
Combination of sources	365	55.8

This pattern is similar to that for 1989. This year the proportion using computerized systems to assemble all or part of the requested data increased, while those hand-tabulating the data at the departmental or school level declined proportionately.

Institutional coordinators were asked to review the departmental listing provided on the form 811 and to indicate any changes in their departmental structure such as new departments formed, old departments phased out, splits, and mergers, and to check off any departments that had neither graduate students nor postdoctorates and for which form 812s would therefore not be submitted. The revised form 811s were returned to the data processing contractor for use as a checklist in tracking departmental responses.

A form 812 was completed for each department, either centrally or at the departmental level, and returned to the data processing contractor for data entry, editing, and tabulation. Arithmetic errors, inconsistencies between items, and sharp year-to-year fluctuations were referred to the institutional coordinators for correction or clarification.

The Response Rate

Of the 730 responding entities included in the fall 1990 survey, 712, or 97.5 percent, were able to provide at least partial data, distributed as follows:

<u>Highest degree granted</u>	<u>Number surveyed</u>	<u>Number responding</u>	<u>Percentage responding</u>
Total	730	712	97.5%
Doctorate	454	449	98.9
Master's	276	263	95.3

At the departmental level, 9,937 departments, or 95 percent of the 10,483 departments surveyed, responded. This total includes 8,884 departments, or 84.7 percent of the total, providing complete responses and 1,053 departments, or 10.1 percent, for which partial imputation was necessary. This response rate was about the same as that for 1989, after improving gradually over the previous eight years.

Missing data for partially nonrespondent departments were imputed using the departments' prior-year data, where available, or data from peer institutions in cases where no prior data had been reported. Data for nonrespondent departments were imputed using prior years' data where available. For five nonrespondent departments that were new to the survey, data were not imputable. The number of departments in doctorate- and master's-granting institutions that required total or partial imputation and the numbers and proportions of full- and part-time graduate students and postdoctorates imputed are shown in tables I-5 through I-8. As in earlier years, imputation rates for master's-granting institutions were slightly higher than those for doctorate-granting institutions.

Changes in Data Items

Although NSF has attempted to maintain consistent trend data, some modifications in the survey questionnaire have been made to respond to changing issues over the past 15 years. As a result, some data items are not available for all institutions in all years.

Whenever a new item has been added to the questionnaire, it has been standard policy on the part of NSF to allow the respondents one year's lead time to convert their data collection systems before incorporating the new data into the survey; the question is labeled "optional" in the first year. Thus while information on racial/ethnic background was first added to the survey form in 1979, publishable data were first obtained in 1980. Major changes in the data collected are as follows:

1. From 1975 through 1977, data for master's-granting institutions were collected on a short form on which data on sex and citizenship of graduate students, and data on postdoctorates, were not requested. In 1978, a similar questionnaire was sent to doctorate-granting institutions, and master's-granting institutions were not surveyed. The 1978 figures shown in the tables for master's-granting institutions represent estimates based on 1977 and 1979 data. Beginning in 1979, the long form was sent to both doctorate- and master's-granting institutions.

Table 11-4. Departmental response rates: 1975-90

Year	Total	Complete response	Percent	Partial response	Percent	Non-response	Percent
1975	9,162	8,998	98.2	NA	NA	NA	NA
1976	9,275	9,148	98.6	NA	NA	NA	NA
1977	9,513	9,432	99.1	NA	NA	NA	NA
1978	8,242	8,077	98.0	NA	NA	NA	NA
1979	9,796	9,446	96.4	NA	NA	NA	NA
1980	9,930	9,593	96.6	NA	NA	NA	NA
1981	9,917	8,594	86.7	613	6.2	710	7.2
1982	9,776	8,104	82.9	744	7.6	928	9.5
1983	9,663	8,070	83.5	816	8.4	777	8.0
1984	8,748	7,490	85.6	643	7.4	615	7.0
1985	9,025	7,818	86.6	672	7.4	535	5.9
1986	9,097	7,817	85.9	779	8.6	501	5.5
1987	9,254	8,030	86.8	715	7.7	509	5.5
1988	10,295	8,812	85.6	970	9.4	513	5.0
1989	10,318	8,908	86.3	891	8.6	519	5.0
1990	10,483	8,884	84.7	1053	10.1	546	5.2

NOTES: NA = Not available

Departments providing partial responses were tabulated separately from complete nonrespondents beginning in 1981.

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table 11-5. Imputation for nonresponse at doctorate-granting institutions by area of science and engineering and enrollment status: 1990

Area of science and engineering	Number of graduate departments		Total in survey			Number imputed			Imputation rate (percent)		
	In universe	Totally imputed	Full time	Part time	Postdoctorates	Full time	Part time	Postdoctorates	Full time	Part time	Postdoctorates
Total, all areas	8,967	418	275,262	123,143	30,432	13,584	7,393	1,251	4.9	6.0	4.1
Engineering	1,229	52	64,169	36,084	1,953	2,508	1,938	84	3.9	5.4	4.3
Physical sciences	534	19	28,845	3,659	5,545	768	225	73	2.7	6.1	1.3
Earth, atmospheric, and ocean sciences	308	13	9,848	3,018	611	288	115	11	2.9	3.8	1.8
Mathematical sciences	354	13	13,202	4,095	253	521	181	17	3.9	4.4	6.7
Computer sciences	230	10	14,701	12,966	71	709	1,112	2	4.8	8.6	2.8
Agricultural sciences	289	14	8,552	1,893	499	185	44	2	2.2	2.3	0.4
Biological sciences	1,830	74	40,132	6,922	12,498	2,097	519	434	5.2	7.5	3.5
Psychology	457	29	24,930	9,755	487	2,075	529	36	8.3	5.4	7.4
Social sciences	1,209	83	45,634	21,608	480	2,810	1,499	14	6.2	6.9	2.9
Health fields	2,527	111	25,249	23,143	8,035	1,623	1,231	578	6.4	5.3	7.2

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table 11-6. Imputed data for all departments at doctorate-granting institutions: fall 1990

Number of departments: 1,160 (Totally imputed departments: 418)

5. FULL-TIME GRADUATE S/E STUDENTS	Students receiving financial assistance									Self support (includ. loans & family sources) (J)	Total for all sources (sum of columns A - I) (K)
	Federal sources (excluding loans)						Non-Federal sources				
	RHS			NSF (D)	Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)	Other U.S. sources (I)		
	DOD (A)	NIH (B)	Other HHS (C)								
Graduate fellowships (1)	33	60	10	62	2	136	1,244	252	264		2,062
Graduate traineeships (2)	14	200	143	7	2	77	334	51	52		880
Graduate research assistants (3)	361	688	62	505	70	503	2,425	39	715		5,354
Graduate teaching assistants (4)		15	4	2	1	31	5,874		67		5,957
Other types of support (5)	146	8	5	3	1	88	1,174	299	311	9,843	11,875
FULL-TIME TOTAL (6)	554	971	224	579	76	835	11,025	641	1,409	9,843	13,657
Full-time women (7)	172	451	157	130	34	323	4,867	109	416	4,621	6,594
Full-time first-year total (8)											6,224
Full-time first-year women (9)											2,532
6. PART-TIME GRADUATE S/E STUDENTS	Total (1)	7,533									
	Women (2)	4,011									
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS	U.S. citizens only										
	Black non- Hispanic (A)	American Indian/ Alaskan (B)	Asian/ Pacific Islander (C)	Hispanic (D)	White non- Hispanic (E)	Other or unknown (F)	Foreign (G)	Total (sum of columns A - G) (H)			
Full-time (1)	685	48	808	838	11,937	1,515	6,415	13,657			
Part-time (2)	714	58	876	467	10,592	1,763	1,323	7,533			
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF	Postdoctorates										
	Source of support				Total for all sources (A - D) (E)	Foreign postdoc- torates (F)	Other non-fac. doctoral research staff (G)				
	Fellow- ships (A)	Trainee- ships (B)	Research grants (C)	Non- Federal (D)							
Total (1)	330	307	1,255	936	2,108	1,291	243				
Women (2)	87	110	282	276	659	484	81				
With MD, DDS, or DVM degrees (3)	109	162	181	275	651	323	15				

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table 11-7. Imputation for nonresponse at master's-granting institutions by area of science and engineering and enrollment status: 1982

Area of science and engineering	Number of graduate departments		Total in survey			Number imputed			Imputation rate (percent)		
	In universe	Totally imputed	Full time	Part time	Postdoc- torates	Full time	Part time	Postdoc- torates	Full time	Part time	Postdoc- torates
Total, all areas	1,516	128	20,574	39,964	50	1,878	3,927	6	9.1	9.8	12.0
Engineering	199	13	2,378	6,668	4	194	322	0	8.2	4.8	0.0
Physical sciences	141	17	728	1,105	25	92	191	1	12.6	17.3	4.0
Earth, atmospheric, and ocean sciences	56	3	447	846	3	21	17	0	4.7	2.0	0.0
Mathematical sciences	113	11	668	1,919	2	50	304	2	7.5	15.8	100.0
Computer sciences	84	7	2,171	4,669	0	154	445	0	7.1	9.5	0.0
Agricultural sciences	26	1	409	329	0	39	68	0	9.5	20.7	0.0
Biological sciences	192	15	1,553	2,314	15	183	186	2	11.8	8.0	13.3
Psychology	225	14	6,062	7,912	1	558	808	1	9.2	10.2	100.0
Social sciences	298	32	3,192	8,186	0	296	1,152	0	9.3	14.1	0.0
Health fields	182	15	2,966	6,016	0	291	434	0	9.8	7.2	0.0

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table 11-8. Imputed data for all departments at master's-granting institutions: fall 1990

Number of departments: 438 (Totally imputed departments: 128)

5. FULL-TIME GRADUATE S/E STUDENTS	Students receiving financial assistance								Self support (includ. loans & family sources) (J)	Total for all sources (sum of columns A - I) (K)	
	Federal sources (excluding loans)					Non-Federal sources					
	HHS			NSF (D)	Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)			Other U.S. sources (I)
	DOD (A)	NIH (B)	Other HHS (C)								
Graduate fellowships (1)	0	0	0	0	0	17	35	2	1	55	
Graduate traineeships (2)	0	3	39	0	0	1	19	0	0	62	
Graduate research assistants (3)	29	15	0	13	0	38	179	0	7	281	
Graduate teaching assistants (4)		0	0	0	0	14	453		2	469	
Other types of support (5)	8	0	0	2	0	208	128	41	25	3,813	
FULL-TIME TOTAL (6)	37	18	39	15	0	278	814	43	35	3,813	
Full-time women (7)	6	10	34	8	0	110	419	6	19	1,214	
Full-time first-year total (8)										1,504	
Full-time first-year women (9)										725	
6. PART-TIME GRADUATE S/E STUDENTS	Total (1)	3,986									
	Women (2)	2,559									
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS	U.S. citizens only										
	Black non- Hispanic (A)	American Indian/ Alaskan (B)	Asian/ Pacific Islander (C)	Hispanic (D)	White non- Hispanic (E)	Other or unknown (F)	Foreign (G)	Total (sum of columns A - G) (H)			
Full-time (1)	286	10	232	149	2,430	744	1,003	1,878			
Part-time (2)	684	12	630	318	6,936	1,387	786	3,986			
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF	Postdoctorates										
	Source of support					Total for all sources (A - D) (E)	Foreign postdoc- torates (F)	Other non-fac. doctoral research staff (G)			
	Fellow- ships (A)	Trainee- ships (B)	Research grants (C)	Non- Federal (D)							
Total (1)	1	0	3	3	6	3		2			
Women (2)	0	0	0	0	0	0		0			
With MD, DDS, or DVM degrees (3)	0	0	0	0	0	0		0			

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

2. Distribution by sex was originally requested only for full-time graduate students at doctorate-granting institutions. Beginning in 1976, master's-granting institutions were requested to provide data on all graduate students according to sex, and in 1977 similar data were requested for all graduate students in all institutions. Information on sex was not requested on the short form used in the 1978 survey; figures for 1978 in the tables in this volume represent estimates based on 1977 and 1979 data.
3. Citizenship data were collected only for graduate students enrolled full time in doctorate-granting institutions through 1977. No citizenship data were requested on the short form used for master's-granting institutions in 1975 through 1977 and for doctorate-granting institutions in 1978. Data on citizenship of all full-time graduate students are available beginning in 1979 and on those enrolled part-time since 1983.
4. As noted above, racial/ethnic data were first requested in 1979 and became a standard item on the questionnaire in 1980. But imputation rates for this item are still higher than for other data on the questionnaire, as shown in tables II-6 and II-8.
5. "Fellowships and traineeships" were combined on one line until 1979, when separate data on the two mechanisms were first collected.
6. "Other nonfaculty research personnel" were combined with postdoctorates until 1979.
7. Separate data on students receiving their primary support from the U.S. Department of Agriculture were first requested in 1985.

Data Revisions

During the fall 1988 survey cycle, the criteria for inclusion of departments in the survey universe were tightened, and a review of the departments surveyed was begun. Those departments not primarily oriented toward the granting of research degrees were no longer considered to fall within the definition of science and engineering. As a result of this review, it was determined that a number of departments, primarily in the "Social sciences, n. e. c." field, were primarily engaged in training teachers or practitioners rather than researchers; these departments were deleted from the data base. This process was continued during the fall 1989 and fall 1990 survey cycles, and expanded to ensure trend consistency for the entire 1975-90 period. As a result, total enrollments and social science enrollments for all years were reduced. The net effect of adjustments over the years is shown in table II-9.

Table 11-9. Comparison of graduate enrollment data as originally published and as modified through the fall of 1990 graduate student survey cycle: 1975-90

Year	Total, all institutions			Doctorate-granting institutions			Master's-granting institutions		
	Original total	Revised total	Percent change	Original total	Revised total	Percent change	Original total	Revised total	Percent change
Total graduate enrollment in surveyed fields									
1975 1/	336,843	331,658	-1.5	290,662	291,947	0.4	46,181	39,711	-14.0
1976	345,979	334,760	-3.2	297,280	295,526	-0.6	48,699	39,234	-19.4
1977	362,978	347,056	-4.4	306,710	303,448	-1.1	56,268	43,608	-22.5
1978 2/	NA	345,187	NA	311,982	299,971	-3.8	NA	45,216	NA
1979	375,267	359,994	-4.1	321,770	312,816	-2.8	53,497	47,178	-11.8
1980	383,210	369,893	-3.5	333,658	322,846	-3.2	49,552	47,047	-5.1
1981	392,034	378,104	-3.6	340,203	329,702	-3.1	51,831	48,402	-6.6
1982	399,682	385,056	-3.7	347,414	336,221	-3.2	52,268	48,835	-6.6
1983	413,564	394,048	-4.7	358,276	343,071	-4.2	55,288	50,977	-7.8
1984 3/	415,064	398,178	-4.1	363,470	346,431	-4.7	51,594	51,747	0.3
1985 3/	434,836	407,942	-6.2	371,052	356,022	-4.1	63,784	51,920	-18.6
1986 3/	446,102	419,338	-6.0	384,203	367,163	-4.4	61,899	52,175	-15.7
1987 3/	449,585	425,358	-5.4	388,681	372,461	-4.2	60,904	52,897	-13.1
1988	445,595	429,831	-3.5	391,683	377,674	-3.6	53,912	52,157	-3.3
1989	440,983	439,941	-0.2	385,025	384,014	-0.3	55,958	55,927	-0.1
1990	458,943	N/A	N/A	398,405	N/A	N/A	60,538	N/A	NA
Full Time									
1975 1/	228,316	222,489	-2.6	210,641	206,797	-1.8	17,675	15,692	-11.2
1976	233,748	224,115	-4.1	215,355	210,117	-2.4	18,393	13,998	-23.9
1977	238,202	227,862	-4.3	218,226	212,576	-2.6	19,976	15,286	-23.5
1978 2/	NA	225,072	NA	217,588	209,380	-3.8	NA	15,692	NA
1979	243,331	233,089	-4.2	224,057	216,801	-3.2	19,274	16,288	-15.5
1980	249,111	239,855	-3.7	230,601	223,012	-3.3	18,510	16,843	-9.0
1981	253,428	243,671	-3.9	234,529	226,921	-3.2	18,899	16,750	-11.4
1982	255,959	246,218	-3.8	237,676	229,993	-3.2	18,283	16,225	-11.3
1983	263,800	253,735	-3.8	243,646	236,076	-3.1	20,154	17,659	-12.4
1984 3/	264,146	255,597	-3.2	246,848	237,460	-3.8	17,298	18,137	4.9
1985 3/	269,319	259,467	-3.7	249,666	241,605	-3.2	19,653	17,862	-9.1
1986 3/	279,235	268,404	-3.9	259,980	250,470	-3.8	19,255	17,934	-6.9
1987 3/	285,200	273,434	-4.1	264,862	254,865	-3.8	20,338	18,569	-8.7
1988	288,619	278,167	-3.6	268,385	259,848	-3.3	20,234	18,319	-9.5
1989	286,619	285,989	-0.2	267,554	266,937	-0.2	19,065	19,052	0.0
1990	295,836	N/A	N/A	275,262	N/A	N/A	20,574	N/A	N/A
Part Time									
1975 1/	108,527	109,169	0.6	80,021	85,150	6.4	28,506	24,019	-15.7
1976	112,231	110,645	-1.4	81,925	85,409	4.3	30,306	25,236	-16.7
1977	124,776	119,194	-4.5	88,484	90,872	2.7	36,292	28,322	-22.0
1978 2/	NA	120,115	NA	94,394	90,591	-4.0	NA	29,524	NA
1979	131,936	126,905	-3.8	97,713	96,015	-1.7	34,223	30,890	-9.7
1980	134,099	130,038	-3.0	103,057	99,834	-3.1	31,042	30,204	-2.7
1981	138,606	134,433	-3.0	105,674	102,781	-2.7	32,932	31,652	-3.9
1982	143,723	138,838	-3.4	109,738	106,228	-3.2	33,985	33,610	-1.1
1983	149,764	140,313	-6.3	114,630	106,995	-6.7	35,134	33,318	-5.2
1984 3/	150,918	142,581	-5.5	116,622	108,971	-6.6	34,296	33,610	-2.0
1985 3/	165,517	148,475	-10.3	121,386	114,417	-5.7	44,131	34,058	-22.8
1986 3/	166,867	150,934	-9.5	124,223	116,693	-6.1	42,644	34,241	-19.7
1987 3/	164,385	151,924	-7.6	123,819	117,596	-5.0	40,566	34,328	-15.4
1988	156,976	151,664	-3.4	123,298	117,826	-4.4	33,678	33,838	0.5
1989	154,364	153,952	-0.3	117,471	117,077	-0.3	36,893	0.0	N/A
1990	163,107	N/A	N/A	123,143	N/A	N/A	39,964	N/A	N/A

1/ The 1976 survey collected data 1975 data from master's-granting institutions.

2/ Master's-granting institutions were not surveyed in 1978.

3/ Includes estimated data for master's-granting institutions, which were surveyed on a sample basis from 1984 through 1987. See Technical Notes for further information.

NOTES: NA = Not available
N/A = Not applicable

SOURCE: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Section III

Listing of Institutions in the Fall 1990 Survey

The graduate institutions included in the 1990 survey are listed in alphabetical order by State in tables III-1 and III-2. Table III-1 lists all doctorate-granting institutions in the universe and their separately-reported components, with their institutional codes as assigned by the Federal Interagency Committee on Education (FICE). Table III-2 contains the same information for all master's-granting institutions in the universe. Institutional FICE codes are provided for the convenience of those wishing to request Institutional Profiles (see General Notes, p. vi), for their own or selected peer institutions. Note that these profiles are available only at the institutional level; separate profiles are not available for individual components or branch campuses within an institution. Summary profiles representing totals for all doctorate-granting institutions or for all Historically Black Colleges and Universities may also be ordered.

Table III-1. Doctorate-granting institutions in the fall 1990 survey

FICE CODE		FICE CODE	
	Alabama		Delaware
008695	L Auburn University Graduate School (Main Campus)	001431	L University of Delaware
001051	Graduate School at Montgomery		District of Columbia
001052	The University of Alabama	001437	Catholic University of America
	The University of Alabama at Birmingham	001444	George Washington University Graduate School
001055	School of Medicine		School of Medicine and Health Sciences
001057	The University of Alabama in Huntsville	001445	Georgetown University Graduate School
	University of South Alabama		School of Medicine
	College of Medicine	001448 H	Howard University College of Medicine
	Graduate School		Graduate School
	Alaska	001434	The American University
029094	L University of Alaska at Fairbanks		Florida
	Arizona		
001081	Arizona State University	001480 H L	Florida A & M University
001082	Northern Arizona University	001481	Florida Atlantic University
001083	L University of Arizona	001469	Florida Institute of Technology
	College of Medicine	001489	L Florida State University
	Graduate School	001509	Nova University
	Arkansas	003954	University of Central Florida
001108	L University of Arkansas	001535	University of Florida College of Medicine College of Nursing Graduate School
001109	University of Arkansas - Med Sci Campus	001536	University of Miami Graduate School
	California	001537	School of Medicine University of South Florida College of Medicine Graduate School
001122	Biola University		Georgia
011881	Calif Sch of Prof Psych - Fresno	001564	Emory University Graduate School
010013	Calif Sch of Prof Psych - Los Angeles		School of Medicine
011117	Calif Sch of Prof Psych - San Diego	008723	Georgia Institute of Technology
009844	Calif Sch of Prof Psych-Berkeley/Alameda	001574	Georgia State University
012154	California Institute of Integral Studies	005010	Institute of Paper Science & Technology
001131	California Institute of Technology	001579	Medical College of Georgia
000166	Charles R. Drew Univ of Medicine & Sci	008724	Mercer University Graduate School
001169	Claremont Univ Center & Graduate School		School of Medicine
001200	Fuller Theological Seminary		Southern School of Pharmacy
001205	Golden Gate University	029297 H	Morehouse School of Medicine
001218	Loma Linda University	001598	L University of Georgia
	Graduate School		Hawaii
	School of Medicine		
029225	Pacific Grad School of Prof Psych	001610	L University of Hawaii at Manoa Graduate School
010441	Rand Graduate School of Policy Studies		John A. Burns School of Medicine
001151	San Diego State University		Idaho
001326	Santa Clara University	001620	Idaho State University
001305	Stanford University Graduate School	001626	L University of Idaho
	School of Medicine		Illinois
029092	The Fielding Institute		
008846	The Wright Institute	001657	Chicago Coll of Osteo Medicine
001158	US International University	029230	Chicago School of Prof Psych
001310	US Naval Postgraduate School	001671	De Paul University
001312	L University of Calif at Berkeley	029239	Forest Institute of Prof Psych
001313	L University of Calif at Davis	001691	Illinois Institute of Technology
001314	L University of Calif at Irvine	001692	Illinois State University
	College of Medicine	001710	Loyola University of Chicago Grad Sch at the Medical Center Graduate School
001315	Graduate School		Stritch School of Medicine
	L University of Calif at Los Angeles	001737	Northern Illinois University
	Graduate School	001739	Northwestern University Graduate School
001316	School of Medicine		Medical School
001317	L University of Calif at Riverside	009800	Rush University
	L University of Calif at San Diego	001758	Southern Illinois Univ at Carbondale
	Graduate School	001774	University of Chicago Graduate School
001319	School of Medicine		Pritzker School of Medicine
001320	L University of Calif at San Francisco	001659	University of Health Sciences (Chicago)
001320	L University of Calif at Santa Barbara	001776	L University of Illinois at Chicago
001321	L University of Calif at Santa Cruz	001775	L University of Illinois at Urbana
001328	University of Southern California Graduate School		Indiana
	School of Medicine		
001329	University of the Pacific	001786	Ball State University
	Colorado	001807	Indiana State University
001348	Colorado School of Mines	008731	Indiana University Fort Wayne Campus
001350	L Colorado State University		Graduate School-Bloomington
008717	University of Colorado Graduate School at Boulder Graduate School at Colorado Springs Graduate School at Denver School of Medicine		Indiana University-Purdue University School of Dentistry School of Medicine
001371	University of Denver	008732	L Purdue University Calumet Graduate School
001349	University of Northern Colorado	001840	University of Notre Dame
	Connecticut		
008718	University of Connecticut Graduate School		
	School of Medicine		
001424	Wesleyan University		
001426	Yale University Graduate School School of Medicine School of Nursing		

Table III-1. Doctorate-granting institutions in the fall 1990 survey

FICE CODE		FICE CODE	
	Iowa		Michigan, continued
001869	L Iowa State University of Sci & Tech		Graduate School
001855	Univ. of Osteopathic Med & Health Sci		School of Medicine
001892	University of Iowa	002330	Western Michigan University
	College of Medicine		Minnesota
	Graduate School		
001890	University of Northern Iowa	010337	Mayo Graduate School
	Kansas	008761	L University of Minnesota
001928	L Kansas State University		Duluth School of Medicine
029001	University of Kansas		Graduate School at Duluth
	Graduate School		Graduate School at Minneapolis
	Medical Center		Minneapolis Medical School
001950	Wichita State University		Mississippi
	Kentucky	002423	L Mississippi State University
001960	Spalding University	008764	University of Mississippi
008744	L University of Kentucky		Graduate School
	College of Medicine	002441	School of Medicine
	Graduate School		University of Southern Mississippi
001999	University of Louisville		Missouri
	Graduate School		
	School of Medicine	002477	Kirkville College of Osteopathic Med
	Louisiana	008766	St. Louis University
008745	L Louisiana State University System		Graduate School
	Graduate School		School of Medicine
	Medical Center at New Orleans	002474	Univ of Health Sciences (Kansas City)
	School of Medicine in Shreveport	002516	L University of Missouri - Columbia
	The Graduate School in Baton Rouge		Graduate School
002008	Louisiana Tech University	002518	School of Medicine
002020	Northeast Louisiana University	002517	L University of Missouri - Kansas City
002029	Tulane University of Louisiana	002519	L University of Missouri - Rolla
	Graduate School	002520	L University of Missouri - St Louis
	School of Medicine		Washington University
	School of Public Health & Tropical Med		Graduate School
002031	University of Southwestern Louisiana		School of Medicine
	Maine		Montana
002053	L University of Maine	002532	L Montana State University
002050	University of New England	002536	University of Montana
	College of Arts and Sciences		Nebraska
	College of Osteopathic Medicine	002542	Creighton University
	Maryland		Graduate School
002077	Johns Hopkins University		School of Medicine
	Graduate School	002565	University of Nebraska - Lincoln
	School of Hygiene and Public Health	002554	L University of Nebraska - Omaha
	School of Medicine	006895	University of Nebraska Medical Center
029169	Uniformed Serv Univ of the Hlth Sciences		Nevada
002104	L University of Maryland - Balt Prof Sch	002568	L University of Nevada at Reno
002105	L University of Maryland - Baltimore Cnty		Graduate School
002103	L University of Maryland - College Park		School of Medical Sciences
	Massachusetts		New Hampshire
002128	Boston College	002573	Dartmouth College
002130	Boston University		Graduate School
	Graduate School	002589	School of Medicine
	School of Dentistry		L University of New Hampshire
	School of Medicine		New Jersey
	School of Public Health		
002133	Brandeis University	008770	Fairleigh Dickinson University
002139	Clark University	002621	New Jersey Institute of Technology
002155	Harvard University	002627	Princeton University
	Graduate School of Arts & Sciences	008771	L Rutgers the State University
	Harvard Medical School		Graduate School at Camden
	School of Public Health		Graduate School at New Brunswick
002165	Mass College of Pharmacy/Allied Health		Graduate School at Newark
002178	L Massachusetts Institute of Technology		School of Criminal Justice
002199	Northeastern University	002632	Seton Hall University
002209	Smith College	002639	Stevens Institute of Technology
002219	Tufts University	002620	Univ of Med and Dent of New Jersey
	Graduate School		Grad Sch of Biomed Sci/NJ Med School
	Sackler Sch of Grad Biomedical Sciences		NJ School of Osteopathic Med
	School of Medicine		New Jersey Dental School
	School of Nutrition		New Jersey Medical School at Newark
002161	University of Lowell		Robt Wood Johnson Medical School
008755	L University of Massachusetts		New Mexico
	Graduate School at Amherst		
	Graduate School at Boston	002654	New Mexico Institute of Mining and Tech
	School of Medicine at Worcester	008773	L New Mexico State University
002230	Woods Hole Oceanographic Institution	002663	University of New Mexico
002233	Worcester Polytechnic Institute		Graduate School
	Michigan		School of Medicine
002243	Central Michigan University		New York
002290	L Michigan State University	002666	Adelphi University
002292	Michigan Technological University	002887	Albany Medical Center Graduate School
002307	Oakland University	002668	Alfred University
002323	University of Detroit	002688	CUNY City College
009091	University of Michigan	004063	CUNY Graduate School and Univ Center
	Graduate School at Ann Arbor	007022	CUNY Herbert H. Lehman College
	Graduate School at Dearborn	002689	CUNY Hunter College
002329	Wayne State University		

Table III-1. Doctorate-granting institutions in the fall 1990 survey

FICE CODE		FICE CODE	
	New York, continued		Oklahoma
007026	CUNY Mt. Sinai Sch of Medicine	008806	L Oklahoma State University
002699	Clarkson University	008807	University of Oklahoma
002707	Columbia University Main Division		Graduate College
	College of Phys and Surgeons	003185	Health Sciences Center
	Graduate School		University of Tulsa
003979	Columbia University Teachers College		Oregon
008779	L Cornell University	008856	Oregon Grad Inst of Science & Technology
	Graduate School	004882	Oregon Health Sciences University
	Graduate School of Medical Sciences	003210	L Oregon State University
002722	Medical College	003216	Portland State University
002732	Fordham University	003223	University of Oregon
008780	Hofstra University		Pennsylvania
	Long Island University	003237	Bryn Mawr College
	Brentwood Center	003242	Carnegie-Mellon University
	Brooklyn Center	003256	Drexel University
	C. W. Post Center	003258	Duquesne University
	Rockland Campus	003271	Hahnemann University
002780	Westchester Center	008810	Indiana University of Pennsylvania
008782	New School for Social Research	003289	Lehigh University
	New York Institute of Technology	008813	L Pennsylvania State University
	New York College of Osteopathic Medicine		College of Medicine
002784	New York Medical College		Graduate School
002785	New York University	003352	Phila College of Osteopathic Medicine
	Graduate School	003353	Philadelphia Coll of Pharmacy and Sci
	School of Medicine	003371	Temple University
	Wagner Graduate School of Public Service		Graduate School
008784	Pace University		School of Medicine
002796	Polytechnic University		School of Pharmacy
002803	Rensselaer Polytechnic Institute	003398	The Medical College of Pennsylvania
002807	Rockefeller University	003278	Thomas Jefferson University
002835	SUNY - Albany	003378	University of Pennsylvania
002836	SUNY - Binghamton		Graduate School
009554	SUNY - Buffalo		School of Medicine
	Graduate School	008815	University of Pittsburgh
	School of Medicine		Graduate School
002851	SUNY - Coll of Env Science and Forestry	003388	School of Medicine
002839	SUNY - Health Sci Ctr at Brooklyn		Villanova University
002840	SUNY - Health Sci Ctr at Syracuse		Rhode Island
009555	SUNY - Stony Brook		Brown University
	Graduate School	003401	Providence College
	School of Medicine	003406	L University of Rhode Island
009929	SUNY State College of Optometry		South Carolina
002823	St John's University	003425	L Clemson University
008789	Syracuse University	003438	Medical University of South Carolina
002889	Union College(NY)	008819	University of South Carolina
002894	University of Rochester		Graduate School
	Graduate School		Medical School
	School of Medicine and Dentistry		South Dakota
002903	Yeshiva University	003470	South Dakota School of Mines and Tech
	Albert Einstein College of Medicine	003471	L South Dakota State University
	Graduate School	003474	University of South Dakota
	North Carolina		Graduate School
002920	Duke University		School of Medicine
	Graduate School		Tennessee
	School of Medicine	003487	East Tennessee State University
002923	East Carolina University	003506	Meharry Medical College
	Graduate School	003509	Memphis State University
	School of Medicine	003523	Tennessee Technological University
002972	L North Carolina State Univ at Raleigh	003530	L University of Tennessee at Knoxville
002974	Univ of North Carolina at Chapel Hill	006725	L University of Tennessee, Memphis
	Graduate School	003535	Vanderbilt University
	School of Medicine		Graduate School
002976	Univ of North Carolina at Greensboro		School of Medicine
002978	Wake Forest University		Texas
	Bowman Gray School of Medicine		Baylor College of Dentistry
	Graduate School		Baylor College of Medicine
	North Dakota		Baylor University
009266	L North Dakota State University		East Texas State University
008794	University of North Dakota		Lamar University
	Ohio		Rice University
003009	Air Force Institute of Technology		Sam Houston State University
008796	Bowling Green State University		Southern Methodist University
003024	Case Western Reserve University		Stephen F. Austin State University
	Graduate School		L Texas A & M University
	School of Medicine		Texas Christian University
003032	Cleveland State University		Texas College of Osteopathic Medicine
008799	Kent State University		Texas Tech University
007737	Medical College of Ohio at Toledo		Graduate School
008800	Miami University		Health Sciences Center
029045	NE Ohio Univ Med School		Texas Woman's University
008802	L Ohio State University		Univ of Texas Hlth Sci Ctr San Antonio
	College of Medicine		Univ of Texas Hlth Sci Ctr at Houston
	Graduate School		Univ of Texas MD Anderson Cancer Center
008803	Ohio University		Univ of Texas Med Branch at Galveston
	College of Osteopathic Medicine		Univ of Texas SW Medical Ctr at Dallas
	Graduate College		Univ of Texas at Arlington
010923	Union Institute		Univ of Texas at Austin
012310	University of Akron		
008805	University of Cincinnati		
	College of Medicine		
	Graduate School		
003127	University of Dayton		
003131	University of Toledo		
009167	Wright State University		

Table III-1. Doctorate-granting institutions in the fall 1990 survey

FICE CODE		FICE CODE	
	Texas, continued		West Virginia
009741	Univ of Texas at Dallas	003815	Marshall University
003661	Univ of Texas at El Paso		Graduate School
003652	University of Houston-University Park		School of Medicine
003594	University of North Texas	011245	West Virginia Sch of Osteopathic Med
		003827	L West Virginia University
	Utah		Graduate School
012305	Brigham Young University		School of Medicine
003675	University of Utah		Wisconsin
	College of Medicine		
	Graduate School	003863	Marquette University
003677	L Utah State University	008296	Medical College of Wisconsin
		003895	L University of Wisconsin - Madison
	Vermont		Graduate School
003696	L University of Vermont & St Agric College		Medical School
	College of Medicine	003896	University of Wisconsin - Milwaukee
	Graduate School		Wyoming
	Virginia		
008828	College of William and Mary	003932	L University of Wyoming
010338	Eastern Virginia Medical School		
003749	George Mason University		OUTLYING AREAS
003717	Institute of Textile Technology		
003728	Old Dominion University		Puerto Rico
003745	University of Virginia	029063	Caribbean Center for Advanced Studies
	Graduate School	003936	Catholic University of Puerto Rico
	School of Medicine	029268	Ponce School of Medicine
003735	Virginia Commonwealth University	003944	L University of Puerto Rico
	Graduate School	007108	L University of Puerto Rico - Rio Piedras
	Medical College of Virginia	003945	L University of Puerto Rico Med Sci Campus
003754	L Virginia Polytechnic Inst and State Univ		
	Washington		
003798	University of Washington		
	Graduate School		
	School of Medicine		
	School of Public Health and Comm Med		
003800	L Washington State University		

NOTES: H = Historically Black institution
L = Land Grant Institution

Table III-2. Master's-granting institutions in the fall 1990 survey

FICE CODE		FICE CODE	
	Alabama		Missouri
001002 H L	Alabama A & M University	002503	Southwest Missouri State University
001005 H	Alabama State University		Montana
001050 H	Tuskegee University	002531	Montana College Mineral Sci & Technology
001004	University of Montevallo		New Jersey
	California	002617	Montclair State College
001144	Calif State Polytechnic Univ at Pomona		New Mexico
001141	Calif State Univ at Dominguez Hills	008772	Eastern New Mexico University
001137	Calif State Univ at Fullerton		New York
001138	Calif State Univ at Hayward	002687	CUNY Brooklyn College
001139	Calif State Univ at Long Beach	029040	CUNY College of Staten Island St George
001140	Calif State Univ at Los Angeles	002693	CUNY John Jay College of Crim Justice
001146	Calif State University at Chico	002798	Pratt Institute
001153	Calif State University at Northridge	002806	Rochester Institute of Technology
001150	Calif State University at Sacramento	008786	Russell Sage College
007993	California State Univ - Bakersfield	002817	St Bonaventure University
001257	Pacific States University	002895	Vassar College
001264	Pepperdine University	002899	Wagner College
001154	San Francisco State University		North Carolina
001155	San Jose State University	002905 H L	North Carolina A & T State University
001325	University of San Francisco	002950 H	North Carolina Central University
008716	West Coast University	002975	Univ of North Carolina at Charlotte
	Connecticut		Oklahoma
001379	Connecticut College	003181	Southwestern Oklahoma State University
001409	St. Joseph College		Pennsylvania
002804	The Hartford Graduate Center	003266	Gannon University
001416	University of Bridgeport	003296	Marywood College
001422	University of Hartford		South Carolina
001397	University of New Haven	003428	College of Charleston
	District of Columbia	003434	Furman University
029100 H L	University of the District of Columbia		Tennessee
	Florida	003490 H	Fisk University
001495	Jacksonville University	003522 H L	Tennessee State University
	Illinois	003529 L	University of Tennessee at Chattanooga
001641	Bradley University		Texas
009145	Governors State University	003541	Angelo State University
001749	Roosevelt University	003630 H L	Prairie View A & M University
009333	Sangamon State University	003615	Southwest Texas State University
001759	Southern Illinois Univ at Edwardsville	003639	Texas A & I University
	Indiana	003642 H	Texas Southern University
001788	Butler University	013231	University of Houston - Victoria
001795	University of Evansville	011711	University of Houston at Clear Lake City
	Kansas		Vermont
001949	Washburn University of Topeka	003691	Middlebury College
	Louisiana		Virginia
002021	Northwest State University	003714 H	Hampton University
002025 H L	Southern University A & M College	003744	University of Richmond
	Maryland	003764 H L	Virginia State University
002068 H	Coppin State College		West Virginia
002076	Hood College	006869	Univ of West Virginia Coll of Grad Stds
002078	Loyola College		Wisconsin
002083 H	Morgan State University	003915	University of Wisconsin - Stout
002099	Towson State University		
002102	University of Baltimore		
	Michigan		
002259	Eastern Michigan University		
002301	Northern Michigan University		
	Mississippi		
002410 H	Jackson State University		

NOTES: H = Historically Black institution
L = Land Grant institution

Section IV

Instructions, Survey Instruments, and Summary Questionnaire Facsimiles

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SUMMARIES OF SELECTED DEPARTMENTAL RESPONSES

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INSTRUCTIONS FOR SURVEY COORDINATOR

PAGE 1 OF 4

INSTITUTION: 001444-0 George Washington University
Graduate School

1. Please review the list of departments/programs printed on the following pages. Add any newly formed graduate science or engineering (S&E) departments or programs in the spaces provided at the end of the list and note any name changes or reorganizations where they occur. Because of special interest at NSF and NIH, please separate computer science from mathematics, separate all engineering fields by discipline (electrical, mechanical, etc.), and separate clinical psychology from all other psychology programs. If your institution offers degrees in these disciplines, please submit separate Forms 812 for each program.
 2. Please cross out discontinued or non-S&E programs on the departmental/program list. Those which do not have graduate students or postdoctorates in Fall 1990, but may have them in the future, should NOT be crossed out; place a check in column (6) of the list instead of submitting a Form 812 for such departments/programs.
 3. The enclosed Crosswalk shows the 3-digit NSF code and comparable NCES discipline codes for each science and engineering field. Please review the first 3 digits of the codes in column (2) of your list to verify that each department/program has been assigned to the correct discipline. If you do not agree with the code in column (2), please note the Crosswalk's discipline code that most closely corresponds to your department/program.
 4. IN MEDICAL SCHOOLS ONLY, departments/programs followed by a single asterisk (*) include the indented sections/specialties listed beneath them. These sections/specialties may be without organizational autonomy; however, because of special interest at NIH, please submit separate data for these sections/specialties. Additionally, please make sure that no duplicate data are reported for sections/specialties and their parent programs.
 5. Please distribute the enclosed Forms 812 at your earliest convenience to all listed and newly formed departments/programs if data cannot be obtained from your centralized files. The Forms 812 provide definitions for all requested data items. Please follow these guidelines when completing the forms.
 6. Please review the Forms 812 for completeness and reporting consistency and verify or supply the highest degree program offered by each department/program. Please check this year's data against the previous year's data shown on the departmental/program list and indicate the validity of any large year-to-year changes in the "Comments" section below or on the individual Forms 812.
 7. Please DO NOT submit responses for any graduate departments in education, law, humanities, music, the arts, physical education, library sciences, and all other non-S&E fields.
 8. Please return one copy of the Form 811 (this form) along with all completed Forms 812 by JANUARY 31, 1992 to :

Quantum Research Corporation
7315 Wisconsin Avenue, Suite 631 West
Bethesda, MD 20814
- Please keep a copy of the Form 811 and the Forms 812 for your records.
9. Care should be taken to submit as complete and as accurate a report as possible in order to reduce follow-up procedures to a minimum and to make more timely statistics available. If there are any questions concerning your response, please call Dr. J. G. Huckenpahler at NSF's Division of Science Resources Studies at (202) 634-4787.

SURVEY COORDINATOR:

NAME: Margaret K. Cohen
TITLE: Director of Institutional Research
ADDRESS: George Washington University
Rice Hall, 8th Floor

TELEPHONE: Washington, DC 20052
(202) 994-6509

SIGNATURE OF SURVEY COORDINATOR

DATE COMPLETED

COMMENTS:

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LIST OF DEPARTMENTS AND PROGRAMS

PAGE 2 OF 4

INSTITUTION: 001444-0 George Washington University
Graduate School

1990 RESPONSE CODE **	DEPARTMENT CODE ***	SCIENCE OR ENGINEERING DEPARTMENTS OR PROGRAMS	DEPARTMENTAL DEGREE LEVEL	REPORTED FULL TIME	FOR FALL 1990: PART TIME	POST- DOCS.	CHECK HERE IF NO STUDENTS AND NO POSTDOCTORATES
(1)	(2)	(3)	(4)	(5)	(5)	(6)	(6)
1	10501	Civil/Mechanical/Environmental Engr	DOCTORATE	68	233	5	_____
1	10602	Electrical Engineering	DOCTORATE	76	349	0	_____
1	10802	Administrative Science	MASTER'S	12	82	0	_____
1	10803	Engineering Management	DOCTORATE	130	613	0	_____
1	20201	Chemistry	DOCTORATE	18	5	0	_____
1	20301	Physics	DOCTORATE	7	4	0	_____
1	30201	Geology	DOCTORATE	15	9	0	_____
1	30401	Environmental Sciences	MASTER'S	3	11	0	_____
1	40101	Computer Science	DOCTORATE	109	296	0	_____
1	40102	Management Information Systems	DOCTORATE	12	41	0	_____
1	40201	Mathematics	DOCTORATE	8	8	0	_____
1	40202	Operations Research	DOCTORATE	32	127	0	_____
1	40301	Statistics/Computer & Info. Systems	DOCTORATE	14	18	0	_____
1	60302	Biology	DOCTORATE	14	3	0	_____
1	60601	Botany	DOCTORATE	1	0	0	_____
1	61001	Genetics	DOCTORATE	39	38	0	_____
1	61301	Forensic Sciences	MASTER'S	25	51	0	_____
1	61601	Zoology	DOCTORATE	2	2	0	_____
1	71201	Public Health	MASTER'S	15	54	0	_____
1	72202	Health Services Management and Policy	DOCTORATE	56	120	0	_____
1	72301	Speech Language Pathology & Audiology	MASTER'S	23	19	0	_____
1	80201	Psychology (Non-Clinical)	DOCTORATE	12	57	0	_____
1	80202	Art Therapy	MASTER'S	26	33	0	_____
1	80301	Clinical Psychology	DOCTORATE	29	12	0	_____
1	90201	Anthropology	MASTER'S	12	6	0	_____
1	90301	Economics	DOCTORATE	78	52	0	_____
1	90401	Geography & Regional Science	MASTER'S	2	1	0	_____
1	90703	Public Administration	DOCTORATE	75	145	0	_____
1	90705	Public Policy	DOCTORATE	49	71	0	_____
1	90706	Science, Technology & Public Policy	MASTER'S	15	31	0	_____
1	90707	Security Policy Studies	MASTER'S	25	55	0	_____
1	90708	Legislative Affairs	MASTER'S	2	37	0	_____
1	90709	Political Science	DOCTORATE	88	41	0	_____
1	90710	International Affairs	MASTER'S	207	143	0	_____
1	90801	Sociology	DOCTORATE	20	7	0	_____
1	91001	Urban Planning & Real Estate Development	MASTER'S	24	53	0	_____
1	91002	American Studies	DOCTORATE	48	40	0	_____
1	91004	East Asian Studies	MASTER'S	7	16	0	_____

(CONTINUED ON NEXT PAGE)

LIST OF DEPARTMENTS AND PROGRAMS

PAGE 3 OF 4

INSTITUTION: 001444-0 George Washington University
Graduate School

1990 RESPONSE CODE **	DEPARTMENT CODE ***	SCIENCE OR ENGINEERING DEPARTMENTS OR PROGRAMS	DEPARTMENTAL DEGREE LEVEL	REPORTED FULL TIME	FOR FALL 1990: PART TIME	POST- DOCS.	CHECK HERE IF NO STUDENTS AND NO POSTDOCTORATES
(1)	(2)	(3)	(4)	(5)			(6)
1	91005	Latin American Studies	MASTER'S	4	7	0	_____
1	91006	Russian & East European Studies	MASTER'S	18	46	0	_____
3	91007	Middle Eastern Studies	MASTER'S	0	2	0	_____
TOTAL, ALL DEPARTMENTS OR PROGRAMS:				1420	2938	5	

ADDITIONAL DEPARTMENTS OR PROGRAMS FOR FALL 1991:
Please fill in columns 3, 4, and if applicable, column 6. Using the NSF
crosswalk provided, please indicate in column 2 the NSF discipline code you
feel is most appropriate, or provide a brief description of the department/
program's major area of concentration.

_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

** 1990 RESPONSE CODE MEANINGS:

1 -- Matched, Data Present
3 -- New, Data Present

*** THE FIRST THREE DIGITS OF THE DEPARTMENT CODE ARE A FIELD OF SCIENCE/ENGINEERING CODE; A LIST OF THESE CODES IS ENCLOSED.

NOTE: This information is solicited under the authority of the National Science Foundation Act of 1950 as amended.
All information you provide will be used for statistical purposes only. Your response is entirely voluntary
and your failure to provide some or all of the information will in no way adversely affect your institution.

LIST OF SURVEY COORDINATORS

PAGE 4 OF 4

INSTITUTION: 001444-0 George Washington University
Graduate School

For your information, all GRADUATE STUDENT SURVEY COORDINATORS on record at your institution are listed below.

To avoid duplicate reporting of departments or programs, please be sure that joint departments or programs have been counted in only one school. In cases where you feel there may be a joint department or program between a graduate and medical school, the form 812 should be completed by the medical school and the department recorded on the medical school's form 811. Please confirm this with the other coordinators, if necessary.

Please check with the other coordinators to be sure that each eligible department in your institution has been covered by one of the coordinators listed here.

001444-5 NAME: Ms. Elizabeth Schilling
 TITLE: Assistant to VP for Medical Affairs
 ADDRESS: George Washington University
 School of Medicine and Health Sciences
 2300 Eye Street, N.W., Rm. 713
 Washington, DC 20037
TELEPHONE: (202) 994-3266

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INSTRUCTIONS FOR SURVEY OF GRADUATE STUDENTS AND POSTDOCTORATES IN SCIENCE AND ENGINEERING, FALL 1990

Purpose of the survey

The survey provides a comprehensive picture of the training of future scientists and engineers in the Nation's graduate schools. Data are used by Congress and the executive branch during budget preparation, and by State government agencies and other analysts to assess future supply and demand of science and engineering (S/E) personnel.

The average time required for questionnaire completion is 2 hours. Response burden comments should be directed to Herman Fleming at (202) 357-9520.

Students to include in survey tabulations

Count as graduate students persons enrolled for credit in a S/E master's or Ph.D. degree program in fall 1990. Report M.D., D.O., D.V.M. or D.D.S. candidates, interns and residents only if they are concurrently working for a S/E master's or Ph.D. or are enrolled in a joint medical/Ph.D. program. Individuals who already hold graduate or medical degrees and are working on another master's or Ph.D. degree are considered graduate students (Items 5-7), not postdoctorates (Item 8).

Include S/E students performing thesis or dissertation research away from the campus (for example, at Government- and contractor-owned facilities) in the United States as long as they are enrolled for credit in an advanced-degree program. Exclude students enrolled in a foreign country (at a branch or extension center), as well as non-matriculated students.

All data should be reported in terms of headcounts, not full-time equivalents (FTEs).

Students enrolled in multiple departments/institutions

A student should be reported in only one department. Students enrolled in interdisciplinary/interinstitutional programs should be counted only once, by their "home" department and institution.

Incomplete data

Please write "unavailable" or "unknown" in data cells as applicable. "N/A" means "not applicable" on this form. Data cells left blank are presumed to be zeroes.

ITEM 5: FULL-TIME STUDENTS

Use lines (1)-(6) to report all full-time students according to the source of the largest amount of their support. These students are engaged full time in their training activities in their S/E fields; these activities may embrace any appropriate combination of study, teaching and research, depending on your institution's own policy.

Mechanisms of support lines (1)-(5)

The selection process distinguishes fellowships from traineeships. A fellowship (1) is awarded directly to, or on behalf of, a student selected in a competition, usually national in scope, to enable pursuit of post-baccalaureate training. A traineeship (2) is an educational award to a student selected by his university. An assistantship should be classified as research (3) or teaching (4), depending on assigned duties, e.g., a student devoting most of his/her time to teaching should be reported on line (4). All other full-time students, including members of the armed forces whose tuition is paid by the Department of Defense, should be reported on line (5).

Federal sources of support columns (A)-(F)

Note that students supported by Federal loans should be reported in column (J): self-supported.

Department of Defense (DOD) (A): Sources include the Departments of the Army, Navy, or Air Force, as well as programs within the Office of the Secretary of Defense. Students receiving their main support from the Veterans Administration under the G.I. Bill should be reported under column (F), "Other Federal sources".

Department of Health and Human Services (HHS) (B) and (C): Report students receiving support from the institutes or divisions of the National Institutes of Health (NIH) under (B); support from all other components of HHS should be reflected in (C). Refer to the organizational roster under "Definitions".

U.S. Department of Agriculture (USDA) (E): Include research assistants working on projects financed out of Hatch, McIntyre-Stennis, or Smith-Lever formula funds,

competitive research grants, and institution fellowship/training grants.

Other Federal Sources (F): Report students receiving support from Federal agencies other than (A) through (E) such as the Fulbright program, the G.I. Bill, Department of Education, and Department of Energy programs.

Non-Federal Sources of Support columns (G)-(I)

Institutional support (G): Report students supported from your institution, including those receiving tuition waivers. State and local government support is also reflected in this column. Students supported from funds originating with the Federal government, such as training grants, should be reported under the appropriate Federal agency.

Foreign sources (H): Include students supported from any non-U.S. source, such as foreign governments, industrial firms, or specialized agencies of the United Nations.

Other U.S. sources (I): Include students supported from nonprofit institutions, private industry, and all other non-Federal U.S. sources not included in columns (G) or (J).

Self-supported students (J): Report both foreign and U.S. citizen students whose main source of support is derived from loans from any source (including the Federal government) and from personal or family financial contributions. Note that these students should be included in the total, column (K).

Women, line (7)

Report all female students by their source of main support. Please note that in each column, data on line (7) should not exceed the total on line (6).

First-year students, lines (8) and (9)

A first-year student is one who will have completed less than a full year of graduate study as of the beginning of the fall term in 1990 in the program in which he/she is enrolled for a degree. All other students should be considered beyond their first year.

ITEM 6: PART-TIME STUDENTS

Report all part-time students here, regardless of their support source. These students are enrolled in advanced-degree programs and are not pursuing graduate work full-time, as defined by your institution.

ITEM 7: CITIZENSHIP AND RACIAL/ETHNIC BACKGROUND OF U.S. CITIZENS

Persons with U.S. citizenship should be reported in columns (A) through (F). Use the racial/ethnic designations from the Bureau of the Census listed under "Definitions". As applied in this survey, these designations do not denote scientific definitions of anthropological origins; thus, a student may be included in the group to which he appears to belong, identifies with, or is regarded in the community as belonging. Count each person in only one racial/ethnic group.

Non-U.S. citizens, whether permanent residents or holding temporary visas, should be reported in column (G); foreign. Applicants for U.S. citizenship should be reported as foreign. Native residents of a U.S. possession are U.S. citizens.

Total full- and part-time enrollments reported in this item should match those reported in items 5 and 6, respectively.

ITEM 8: POSTDOCTORATES AND NONFACULTY RESEARCH STAFF WITH DOCTORATES

Include individuals with S/E Ph.D.'s, M.D.'s, D.D.S.'s or D.V.M.'s (including foreign degrees that are equivalent to U.S. doctorates) who devote their primary effort to research activities or study in the department under temporary appointments carrying no academic rank. They may contribute to the academic program through seminars, lectures, or working with graduate students. Their postdoctoral activities provide additional training for them. Include persons affiliated with this department as well as those employed in associated academic research units. Exclude clinical fellows and those with appointments in residency training programs in medical and health professions, unless research training under the supervision of a senior mentor is the primary purpose of the appointment.

Use columns (A) - (D) to report postdoctorates by source of support, with the total number reported in column (E). Of this total, report the number who are foreign in column (F). Column (G), other nonfaculty doctoral research staff with doctorates, should include all doctoral scientists and engineers who are involved principally in research activities but are considered neither postdoctoral appointees nor members of the regular faculty.

On line (2), report the number of women in each category. On line (3), report those postdoctorates and nonfaculty research staff who hold first professional medical degrees (M.D., D.D.S., D.O., D.V.M.). Please note that in each column, data on lines (2) and (3) should not exceed the total on line (1).

DEFINITIONS:

(1) National Institutes of Health Organizational Roster Item 5, column (B)

National Center for Research Resources
Fogarty International Center
National Cancer Institute
National Center for Nursing Research
National Eye Institute
National Heart, Lung and Blood Institute
National Institute on Aging
National Institute on Allergy and Infectious Disease
National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Institute of Diabetes and Digestive and Kidney Diseases
National Institute of Child Health and Human Development
National Institute of Dental Research
National Institute of Environmental Health Sciences
National Institute of General Medical Sciences
National Institute of Neurological and Communicative Disorders and Stroke
National Library of Medicine

(2) Other HHS Administrative Units Item 5, column (C)

Alcohol, Drug Abuse and Mental Health Administration
National Institute of Mental Health
Center for Disease Control
Food and Drug Administration
Health Resources Administration
Health Services Administration
Office of Human Development

(3) Racial/Ethnic Categories for U.S. Citizens defined by the Bureau of the Census (Item 7)

Black, non-Hispanic: Persons having origins in any of the Black racial groups (except those of Hispanic origin).

American Indian or Alaskan native: Persons having origins in any of the original peoples of North America.

Asian or Pacific Islander: Persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. These areas include China, Japan, Korea, the Philippine Islands, and Samoa.

Hispanic: Persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

White, non-Hispanic: Persons having origins in any of the original peoples of Europe, North Africa or the Middle East, except those of Hispanic origin.

For further information ...

If you have any questions regarding the survey, please contact J. G. Hickenpähler of NSF's Division of Science Resources Studies at (202) 634-4787 [fax # (202) 634-4683].

NATIONAL SCIENCE FOUNDATION and NATIONAL INSTITUTES OF HEALTH
Survey of Graduate Students and Postdoctorates in Science and Engineering, Fall 1990

Form Approved:
OMB No. 314-0062
Appr. Exp. 8/31/91

DEPARTMENT OR PROGRAM DATA SHEET

due date: January 31, 1991

Identifying Information (Items 1-4)

1. Institution Name _____

2. Name of S/E department or program: _____

If changed since last year, please indicate previous name and whether this represents a merger, split, or expanded program.

3. Person in department (or program) preparing this form:

Name: _____

Title: _____

Phone: () _____

Institution and
department code
(LEAVE BLANK)

4. Highest degree granted by department or program in 1990/91. (CHECK ONE ONLY) If your department has never granted a graduate degree, but is a department of clinical medicine with or without postdoctorates, check (3).
 Doctorate _____ (1) Master's _____ (2) No graduate degree offered _____ (3)

Report all data on a "headcount" basis, not FTEs, fractions, or decimals. If your department or program does not enroll graduate students, please move to item 8.

5. NUMBER OF **FULL-TIME** GRADUATE STUDENTS enrolled for advanced degrees (master's and doctorate) in fall 1990. Report each student **only once** according to the source and mechanism of the **largest amount of support** received in fall 1990. Students receiving equal support from multiple sources or through multiple mechanisms should be reported only once. To determine the primary source, consider only tuition and other academic expenses.

MECHANISMS OF SUPPORT		STUDENTS RECEIVING FINANCIAL ASSISTANCE								SELF-SUPPORTED STUDENTS (including loans and family sources) (J)	TOTAL FULL-TIME GRADUATE ENROLLMENT (Sum of (A) thru (J)) (K)	
		FEDERAL SOURCES (excluding loans)						NON-FEDERAL SOURCES				
		Department of Defense (A)	HHS		National Science Foundation (D)	Department of Agriculture (E)	Other Federal sources (F)	Institutional support (including State and local government) (G)	Foreign sources (H)	Other U.S. sources (I)		
			National Institutes of Health (B)	Other HHS (C)								
Graduate Fellowships	(1)											
Graduate Traineeships	(2)											
Graduate Research Assistantships	(3)											
Graduate Teaching Assistantships	(4)											
Other Types of Support	(5)											
FULL-TIME TOTAL¹	(6)											
Of the students in line (6), how many in each data cell are WOMEN?	(7)											
FIRST-YEAR STUDENTS	(8)	Of the students on line (6), column (K), how many are FIRST-YEAR students? (Should not exceed total on line (6)).										
FIRST-YEAR WOMEN STUDENTS	(9)	Of the first-year students on line (8), how many are WOMEN?										

¹The total from line (6) should be inserted in item (7), line (1), column (H)

6. NUMBER OF **PART-TIME** GRADUATE STUDENTS enrolled for advanced degrees (master's and doctorate) in fall 1990.

PART-TIME TOTAL¹

(1)

Of the students on line (1), how many are WOMEN?

(2)

¹The total from line (1) should be inserted in item (7), line (2), column (H).

7. RACE/ETHNICITY of FULL-TIME (line (1)) and PART-TIME (line (2)) graduate students in fall 1990.	Of the student totals in items 5 and 6, how many belong to the following RACIAL/ETHNIC categories? Be sure to count each student only once.		U.S. CITIZENS ONLY						Foreign permanent residents and temporary visa holders (G)	TOTAL (Sum of (A) thru (G)) (H)
			Black non-Hispanic (A)	Amer. Indian/Alaskan Native (B)	Asian/Pacific Islander (C)	Hispanic (D)	White non-Hispanic (E)	Other, unknown or declined to state (F)		
	FULL TIME, column (H), should equal item 5, line (6), column (K)	(1)								
	PART TIME, column (H), should equal item 6, line (1)	(2)								

8. NUMBER OF POSTDOCTORATES AND NON-FACULTY RESEARCH STAFF WITH DOCTORATES in fall 1990.		POSTDOCTORATES						OTHER NON-FACULTY RESEARCH STAFF WITH DOCTORATES (G)	
		SOURCE OF SUPPORT				TOTAL for all sources (A) thru (D) (E)	Of the total in (E), how many are FOREIGN? (F)		
		Federal			Non-Federal				
		Fellowships (A)	Traineeships (B)	Research grants (C)	(D)				
TOTAL	(1)								
Of the total in each cell of line (1), how many are WOMEN?	(2)								
Of the total in each cell of line (1), how many hold the M.D., D.O., D.D.S., or D.V.M. degree?	(3)								

Approximately how many personhours were required to complete this form?

Explanation of variances from prior year's data or other comments:

List of other Federal sources (agencies) from item 5, column (F), and number of full-time students supported by each:

NOTE: This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. All information you provide will be used for statistical purposes only. Your response is entirely voluntary and your failure to provide some or all of the information will in no way adversely affect your institution.



SURVEY OF GRADUATE STUDENTS AND POSTDOCTORATES IN SCIENCE AND ENGINEERING

CROSSWALK BETWEEN NSF DISCIPLINE CODES AND THE NCES CLASSIFICATION OF INSTRUCTIONAL PROGRAMS

The following set of discipline codes is used to categorize science and engineering departments in the Survey of Graduate Students and Postdoctorates in Science and Engineering. Representative department names are shown under each of the discipline codes.

ENGINEERING

- 101 AEROSPACE ENGINEERING
14 02 AEROSPACE, AERONAUTICAL AND ASTRONAUTICAL ENGINEERING
- 102 AGRICULTURAL ENGINEERING
14 03 AGRICULTURAL ENGINEERING
- 103 BIOMEDICAL ENGINEERING
14 05 BIOENGINEERING AND BIOMEDICAL ENGINEERING
- 104 CHEMICAL ENGINEERING
03 0509 WOOD SCIENCE
14 07 CHEMICAL ENGINEERING
- 105 CIVIL ENGINEERING
04 02 ARCHITECTURE
14 04 ARCHITECTURAL ENGINEERING
14 08 CIVIL ENGINEERING
14 14 ENVIRONMENTAL HEALTH ENGINEERING
- 106 ELECTRICAL ENGINEERING
14 09 COMPUTER ENGINEERING
14 10 ELECTRICAL, ELECTRONICS, AND COMMUNICATIONS ENGINEERING
14 1002 MICROELECTRONIC ENGINEERING
- 107 ENGINEERING SCIENCE
14 12 ENGINEERING PHYSICS
14 13 ENGINEERING SCIENCE
- 108 INDUSTRIAL ENGINEERING/MANAGEMENT SCIENCE
14 17 INDUSTRIAL ENGINEERING
14 27 SYSTEMS ENGINEERING
30 06 SYSTEMS SCIENCE
- 109 MECHANICAL ENGINEERING
14 11 ENGINEERING MECHANICS
14 19 MECHANICAL ENGINEERING
- 110 METALLURGICAL AND MATERIALS ENGINEERING
14 06 CERAMIC ENGINEERING
14 18 MATERIALS ENGINEERING
14 20 METALLURGICAL ENGINEERING
14 28 TEXTILE ENGINEERING
40 0701 METALLURGY
- 111 MINING ENGINEERING
14 15 GEOLOGICAL ENGINEERING
14 16 GEOPHYSICAL ENGINEERING
14 21 MINING AND MINERAL ENGINEERING
- 112 NUCLEAR ENGINEERING
14 23 NUCLEAR ENGINEERING
- 113 PETROLEUM ENGINEERING
14 25 PETROLEUM ENGINEERING
- 114 ENGINEERING, N.E.C.
14 01 ENGINEERING, GENERAL
14 1401 ENVIRONMENTAL HEALTH ENGINEERING
14 22 NAVAL ARCHITECTURE AND MARINE ENGINEERING
14 24 OCEAN ENGINEERING
14 99 ENGINEERING, OTHER
30 03 ENGINEERING AND OTHER DISCIPLINES

PHYSICAL SCIENCES

- 201 ASTRONOMY
40 02 ASTRONOMY
40 03 ASTROPHYSICS
40 09 PLANETARY SCIENCE
- 202 CHEMISTRY
40 05 CHEMISTRY
- 203 PHYSICS
40 08 PHYSICS
- 204 PHYSICAL SCIENCES, N.E.C.
40 01 PHYSICAL SCIENCES, GENERAL
40 0799 MISCELLANEOUS PHYSICAL SCIENCES, OTHER
40 99 PHYSICAL SCIENCES, OTHER

ENVIRONMENTAL SCIENCES

- 301 ATMOSPHERIC SCIENCES
40 04 ATMOSPHERIC SCIENCES AND METEOROLOGY
- 302 GEOSCIENCES
14 26 SURVEYING AND MAPPING SCIENCES
40 06 GEOLOGICAL SCIENCES
40 0703 EARTH SCIENCE
- 303 OCEANOGRAPHY
26 0607 MARINE BIOLOGY
40 0702 OCEANOGRAPHY
- 304 ENVIRONMENTAL SCIENCES, N.E.C.

MATHEMATICAL SCIENCES

- 402 MATHEMATICS AND APPLIED MATHEMATICS
06 1302 OPERATIONS RESEARCH (QUANTITATIVE METHODS)
27 01 MATHEMATICS, GENERAL
27 03 APPLIED MATHEMATICS
27 04 PURE MATHEMATICS
27 99 MATHEMATICS, OTHER
30 08 MATHEMATICS AND COMPUTER SCIENCE
- 403 STATISTICS
27 02 ACTUARIAL SCIENCES
27 05 STATISTICS

COMPUTER SCIENCES

- 401 COMPUTER SCIENCE
06 12 MANAGEMENT INFORMATION SYSTEMS
11 COMPUTER AND INFORMATION SCIENCES, GENERAL
30 09 IMAGING SCIENCE

AGRICULTURAL SCIENCES (SEE ALSO 102 AND 901)

- 501 AGRICULTURAL SCIENCES
02 01 AGRICULTURAL SCIENCES, GENERAL
02 02 ANIMAL SCIENCES
02 03 FOOD SCIENCES
02 04 PLANT SCIENCES
02 05 SOIL SCIENCES
02 99 AGRICULTURAL SCIENCES, OTHER
03 01 RENEWABLE NATURAL RESOURCES, GENERAL
03 02 CONSERVATION AND REGULATION
03 03 FISHING AND FISHERIES
03 05 FORESTRY AND RELATED SCIENCES
03 06 WILDLIFE MANAGEMENT
03 99 RENEWABLE NATURAL RESOURCES, OTHER
31 04 WATER RESOURCES

BIOLOGICAL SCIENCES

- 601 ANATOMY
18 0201 CLINICAL ANATOMY
26 0601 ANATOMY
- 602 BIOCHEMISTRY
18 0202 CLINICAL BIOCHEMISTRY
26 02 BIOCHEMISTRY AND BIOPHYSICS
- 603 BIOLOGY
26 01 BIOLOGY, GENERAL
26 0604 EMBRYOLOGY
- 604 BIOMETRY AND EPIDEMIOLOGY
18 2202 EPIDEMIOLOGY
26 0602 BIOMETRICS AND BIostatISTICS
- 605 BIOPHYSICS
- 606 BOTANY
26 03 BOTANY (EXCLUDING 26 0302 BACTERIOLOGY--SEE 611)
- 607 CELL BIOLOGY
26 04 CELL AND MOLECULAR BIOLOGY
26 0606 HISTOLOGY

- 608 ECOLOGY
26 0603 ECOLOGY
- 609 ENTOMOLOGY AND PARASITOLOGY
26 0610 PARASITOLOGY
26 0702 ENTOMOLOGY
- 610 GENETICS
26 0703 GENETICS, HUMAN AND ANIMAL
- 611 MICROBIOLOGY, IMMUNOLOGY, AND VIROLOGY
18 0203 CLINICAL MICROBIOLOGY
18 1002 ALLERGIES AND ENDOLOGY
18 1009 IMMUNOLOGY
26 0302 BACTERIOLOGY
26 05 MICROBIOLOGY
- 612 NUTRITION
19 05 FOOD SCIENCES AND HUMAN NUTRITION
20 0108 FOOD AND NUTRITION
26 0609 NUTRITIONAL SCIENCES
- 613 PATHOLOGY
18 0204 CLINICAL PATHOLOGY
18 1018 PATHOLOGY
26 0704 PATHOLOGY, HUMAN AND ANIMAL
- 614 PHARMACOLOGY
18 0206 CLINICAL TOXICOLOGY
26 0612 TOXICOLOGY
26 0705 PHARMACOLOGY, HUMAN AND ANIMAL
42 14 PSYCHOPHARMACOLOGY
- 615 PHYSIOLOGY
18 0205 PHYSIOLOGY
26 0706 PHYSIOLOGY, HUMAN AND ANIMAL
- 616 ZOOLOGY
26 0701 ZOOLOGY
26 0799 ZOOLOGY, OTHER
- 617 BIOSCIENCES, N.E.C.
26 0699 MISCELLANEOUS SPECIALIZED AREAS, LIFE SCIENCES, OTHER
26 99 LIFE SCIENCES, OTHER

PSYCHOLOGY

- 801 PSYCHOLOGY, COMBINED
802 PSYCHOLOGY, EXCEPT CLINICAL
13 08 SCHOOL PSYCHOLOGY
17 0801 ART THERAPY
42 PSYCHOLOGY
803 CLINICAL PSYCHOLOGY

SOCIAL SCIENCES

- 901 AGRICULTURAL ECONOMICS
01 0102 AGRICULTURAL BUSINESS AND MANAGEMENT
01 0103 AGRICULTURAL ECONOMICS
- 902 ANTHROPOLOGY (CULTURAL AND SOCIAL)
45 02 ANTHROPOLOGY
45 03 ARCHEOLOGY
- 903 ECONOMICS (EXCEPT AGRICULTURAL)
06 05 BUSINESS ECONOMICS
45 06 ECONOMICS
- 904 GEOGRAPHY
45 07 GEOGRAPHY
- 905 HISTORY AND PHILOSOPHY OF SCIENCE
- 906 LINGUISTICS
23 06 LINGUISTICS
42 12 PSYCHOLINGUISTICS
- 907 POLITICAL SCIENCE
44 01 PUBLIC AFFAIRS, GENERAL
44 03 INTERNATIONAL PUBLIC SERVICE
44 04 PUBLIC ADMINISTRATION
44 05 PUBLIC POLICY STUDIES
44 99 PUBLIC AFFAIRS, OTHER
45 09 INTERNATIONAL RELATIONS
45 10 POLITICAL SCIENCE AND GOVERNMENT
- 908 SOCIOLOGY
45 05 DEMOGRAPHY
45 11 SOCIOLOGY
- 909 SOCIOLOGY AND ANTHROPOLOGY
- 910 SOCIAL SCIENCES, N.E.C.
04 03 CITY, COMMUNITY AND REGIONAL PLANNING
05 AREA AND ETHNIC STUDIES
43 01 CRIMINAL JUSTICE
44 02 COMMUNITY SERVICES
45 01 SOCIAL SCIENCES, GENERAL
45 12 URBAN STUDIES
45 99 SOCIAL SCIENCES, OTHER

HEALTH FIELDS (SEE ALSO 103)

- 701 ANESTHESIOLOGY
18 1003 ANESTHESIOLOGY
- 702 CARDIOLOGY
- 703 CANCER RESEARCH/ONCOLOGY
- 704 ENDOCRINOLOGY
26 0605 ENDOCRINOLOGY
- 705 GASTROENTEROLOGY
- 706 HEMATOLOGY
18 08 HEMATOLOGY
- 707 NEUROLOGY
18 1024 NEUROLOGY
26 0608 NEUROSCIENCES
- 708 OBSTETRICS AND GYNECOLOGY
18 1013 OBSTETRICS AND GYNECOLOGY
- 709 OPHTHALMOLOGY
18 1014 OPHTHALMOLOGY
18 12 OPTOMETRY
- 710 OTORHINOLARYNGOLOGY
18 1017 OTORHINOLARYNGOLOGY/OTOLARYNGOLOGY
- 711 PEDIATRICS
18 1019 PEDIATRICS
20 0102 CHILD DEVELOPMENT, CARE, AND GUIDANCE
- 712 PREVENTIVE MEDICINE AND COMMUNITY HEALTH
18 1007 FAMILY PRACTICE
18 1022 PREVENTIVE MEDICINE
18 22 PUBLIC HEALTH
- 713 PSYCHIATRY
18 1023 PSYCHIATRY
18 1106 PSYCHIATRY/MENTAL HEALTH
- 714 PULMONARY DISEASE
- 715 RADIOLOGY
18 1012 NUCLEAR MEDICINE
18 1025 RADIOLOGY
26 0611 RADIOBIOLOGY
- 716 SURGERY
18 1004 COLON AND RECTAL SURGERY
18 1011 NEUROLOGICAL SURGERY
18 1016 ORTHOPEDIC
18 1021 PLASTIC SURGERY
18 1026 SURGERY
18 1027 THORACIC SURGERY
- 717 CLINICAL MEDICINE, N.E.C.
18 0299 BASIC CLINICAL HEALTH SCIENCES, OTHER
18 1001 MEDICINE, GENERAL
18 1005 DERMATOLOGY
18 1008 GERIATRICS
18 1010 INTERNAL MEDICINE
18 1020 PHYSICAL MEDICINE AND REHABILITATION
18 1028 UROLOGY
18 1099 MEDICINE, OTHER
18 13 OSTEOPATHIC MEDICINE
18 15 PODIATRY
30 01 BIOLOGICAL AND PHYSICAL SCIENCES
- 718 DENTAL SCIENCES
18 04 DENTISTRY
18 1015 ORTHODONTIC SURGERY
- 719 NURSING
18 11 NURSING (EXCLUDING 18 1106, PSYCHIATRY/MENTAL HEALTH--SEE 713)
- 720 PHARMACEUTICAL SCIENCES
18 14 PHARMACY
- 721 VETERINARY SCIENCES
18 24 VETERINARY MEDICINE
- 722 HEALTH RELATED, N.E.C.
17 0807 OCCUPATIONAL THERAPY
17 0813 PHYSICAL THERAPY
17 0899 REHABILITATION SERVICES, OTHER
17 99 ALLIED HEALTH, OTHER
18 07 HEALTH SCIENCES ADMINISTRATION
18 09 MEDICAL LABORATORY
18 99 HEALTH SCIENCES, OTHER
- 723 SPEECH PATHOLOGY AND AUDIOLOGY
18 01 AUDIOLOGY AND SPEECH PATHOLOGY

FLOW CHART **NSF SURVEY OF GRADUATE SCIENCE AND ENGINEERING STUDENTS AND POSTDOCTORATES**

Institutions that automate NSF survey data, or plan to--or even engage in manual data processing--may be assisted in tabulating enrollment data (items 5-7 on form 812) by this chart.

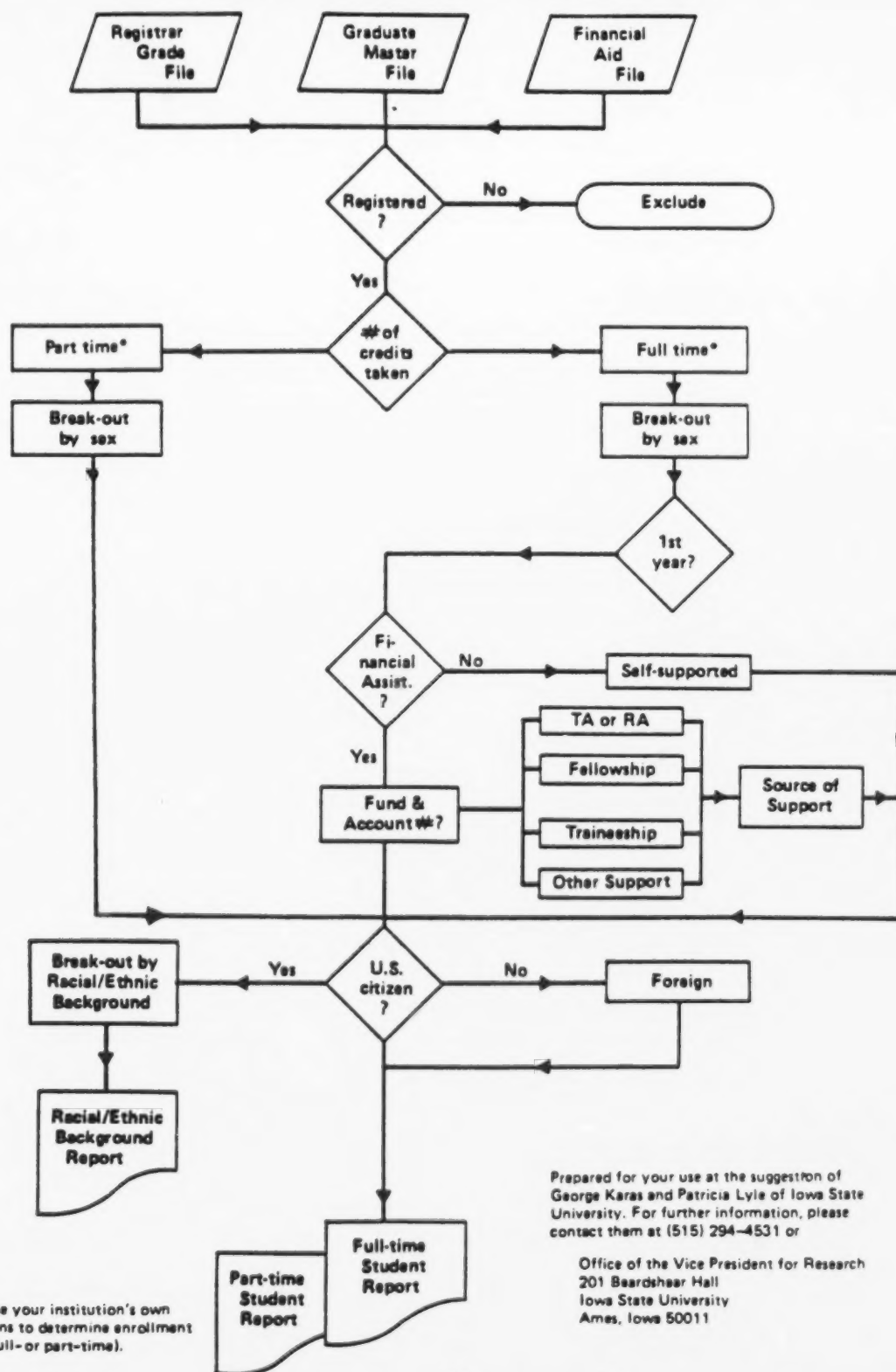


Table IV-A-1. Summary of responses from all departments
at all graduate institutions: fall 1990

Number of departments: 10,483

Students receiving financial assistance												
5. FULL-TIME GRADUATE S/E STUDENTS	Federal sources (excluding loans)								Non-Federal sources		Self support (includ. loans & family sources) (J)	Total for all sources (sum of columns A - I) (K)
	HHS											
	DOD (A)	NIH (B)	Other HHS (C)	NSF (D)	Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)	Other U.S. sources (I)			
Graduate fellowships (1)	583	883	193	2,101	110	2,515	13,332	2,230	3,695		25,642	
Graduate traineeships (2)	124	4,376	3,227	54	57	1,528	5,022	238	578		15,204	
Graduate research assistants (3)	5,312	9,403	1,034	9,697	2,439	10,583	30,363	728	11,479		81,038	
Graduate teaching assistants (4)		97	24	86	44	367	63,908		532		65,058	
Other types of support (5)	2,797	271	128	78	83	1,669	10,830	3,396	3,596	86,046	108,894	
FULL-TIME TOTAL (6)	8,816	15,030	4,606	12,016	2,733	16,662	123,455	6,592	19,880	86,046	295,836	
Full-time women (7)	1,341	6,418	3,461	2,689	911	4,833	43,967	1,228	5,485	37,083	107,416	
Full-time first-year total (8)											88,160	
Full-time first-year women (9)											35,332	
=====												
6. PART-TIME GRADUATE S/E STUDENTS	Total (1)	163,107										
	Women (2)	72,035										
=====												
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS												
	U.S. citizens only							Total (sum of columns A - G) (H)				
	Black non- Hispanic (A)	American Indian/ Alaskan (B)	Asian/ Pacific Islander (C)	Hispanic (D)	White non- Hispanic (E)	Other or unknown (F)	Foreign (G)					
	Full-time (1)	8,249	768	12,106	7,833	168,373	7,697	90,810	295,836			
	Part-time (2)	7,224	502	7,089	4,736	117,624	9,978	15,954	163,107			
=====												
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF												
	Postdoctorates							Other non-fac. doctoral research staff (G)				
	Source of support					Total for all sources (A - D) (E)	Foreign postdoc- torates (F)					
	Fellow- ships (A)	Trainee- ships (B)	Research grants (C)	Non- Federal (D)								
	Total (1)	2,907	2,726	15,329	9,520	30,482	14,710	5,279				
	Women (2)	944	960	3,748	2,603	8,255	3,336	1,397				
	With MD, DDS, or DVM degrees (3)	861	1,195	1,495	2,783	6,334	2,791	447				

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table IV-B-1. Summary of responses from all departments
at doctorate-granting institutions: fall 1990

Number of departments: 8,967

5. FULL-TIME GRADUATE S/E STUDENTS											
Students receiving financial assistance										Self support (includ. loans & family sources) (J)	Total for all sources (sum of columns A - I) (K)
Federal sources (excluding loans)					Non-Federal sources						
DOD (A)	NIH (B)	Other HHS (C)	NSF (D)	Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)	Other U.S. sources (I)			
Graduate fellowships (1)	577	881	191	2,093	107	2,398	12,958	2,197	3,631		25,033
Graduate traineeships (2)	120	4,359	3,020	54	57	1,480	4,900	237	559		14,786
Graduate research assistants (3)	5,252	9,334	1,028	9,641	2,373	10,356	28,963	721	11,419		79,087
Graduate teaching assistants (4)		94	24	85	44	311	61,546		505		62,609
Other types of support (5)	2,753	271	101	76	80	1,356	9,982	3,297	3,454	72,377	93,747
FULL-TIME TOTAL (6)	8,702	14,939	4,364	11,949	2,661	15,901	118,349	6,452	19,568	72,377	275,262
Full-time women (7)	1,324	6,366	3,244	2,665	881	4,513	41,531	1,188	5,367	30,054	97,133
Full-time first-year total (8)											80,479
Full-time first-year women (9)											31,245
=====											
6. PART-TIME GRADUATE S/E STUDENTS											
Total (1)	123,143										
Women (2)	52,339										
=====											
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS											
U.S. citizens only											
	Black non-Hispanic (A)	American Indian/Alaskan (B)	Asian/Pacific Islander (C)	Hispanic (D)	White non-Hispanic (E)	Other or unknown (F)	Foreign (G)	Total (sum of columns A - G) (H)			
Full-time (1)	6,835	706	11,279	7,247	155,886	6,146	87,163	275,262			
Part-time (2)	4,730	382	5,258	3,528	89,118	6,757	13,370	123,143			
=====											
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF											
Postdoctorates											
	Source of support federal				Total for all sources (A - D) (E)	Foreign postdoc-torates (F)	Other non-fac-torial research staff (G)				
	Fellow-ships (A)	Trainee-ships (B)	Research grants (C)	Non-Federal (D)							
Total (1)	2,906	2,726	15,297	9,503	30,432	14,678	5,254				
Women (2)	944	960	3,744	2,602	8,250	3,333	1,393				
With MD, DDS, or DVM degrees (3)	861	1,195	1,495	2,783	6,334	2,791	447				

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table IV-C-1. Summary of responses from all departments
at master's-granting institutions: fall 1990

Number of departments: 1,516

=====											
5. FULL-TIME GRADUATE S/E STUDENTS											
Students receiving financial assistance											
Federal sources (excluding loans)											
Non-Federal sources											
Self support (incl. loans & family sources)											
Total for all sources (sum of columns A - I)											
	DOD (A)	NIH (B)	Other HHS (C)	NSF (D)	Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)	Other U.S. sources (I)		
Graduate fellowships (1)	6	2	2	8	3	117	374	33	64		609
Graduate traineeships (2)	4	17	207	0	0	48	122	1	19		418
Graduate research assistants (3)	60	69	6	56	66	227	1,400	7	60		1,951
Graduate teaching assistants (4)		3	0	1	0	56	2,362		27		2,449
Other types of support (5)	44	0	27	2	3	313	848	99	142	13,669	15,147
FULL-TIME TOTAL (6)	114	91	242	67	72	761	5,106	140	312	13,669	20,574
Full-time women (7)	17	52	217	24	30	320	2,436	40	118	7,029	10,283
Full-time first-year total (8)											7,681
Full-time first-year women (9)											4,087
=====											
6. PART-TIME GRADUATE S/E STUDENTS											
Total (1)	39,964										
Women (2)	19,696										
=====											
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS											
U.S. citizens only											
	Black non-Hispanic (A)	American Indian/ Alaskan (B)	Asian/ Pacific Islander (C)	Hispanic (D)	White non-Hispanic (E)	Other or unknown (F)	Foreign (G)	Total (sum of columns A - G) (H)			
Full-time (1)	1,414	62	827	586	12,487	1,551	3,647	20,574			
Part-time (2)	2,494	120	1,831	1,208	28,506	3,221	2,584	39,964			
=====											
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF											
Postdoctorates											
Source of support											
	Fellowships (A)	Traineeships (B)	Research grants (C)	Non-Federal (D)	Total for all sources (A - D) (E)	Foreign postdoctorates (F)	Other non-fac. doctoral research staff (G)				
Total (1)	1	0	32	17	50	32	25				
Women (2)	0	0	4	1	5	3	4				
With MD, DDS, or DVM degrees (3)	0	0	0	0	0	0	0				
=====											

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table IV-D-1. Summary of responses from all departments
at all public institutions: fall 1993

Number of departments: 7,293

5. FULL-TIME GRADUATE S/E STUDENTS											
Students receiving financial assistance											
Federal sources (excluding loans)											
Non-Federal sources											
	DOO (A)	NIH (B)	Other RHS (C)	NSF (D)	Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)	Other U.S. sources (I)	Self support (incl. loans & family sources) (J)	Total for all sources (sum of columns A - I) (K)
Graduate fellowships (1)	273	411	137	941	103	1,668	7,541	1,146	2,115		14,335
Graduate traineeships (2)	74	2,176	2,642	31	45	1,091	1,928	142	316		8,445
Graduate research assistants (3)	3,396	6,542	779	6,740	2,353	8,127	25,462	568	8,547		62,514
Graduate teaching assistants (4)		73	20	66	44	290	51,552		408		52,453
Other types of support (5)	2,396	194	79	74	82	1,440	6,763	2,362	2,336	58,678	74,404
FULL-TIME TOTAL (6)	6,139	9,396	3,657	7,852	2,627	12,616	93,246	4,218	13,722	58,678	212,151
Full-time women (7)	925	4,019	2,823	1,752	864	3,654	32,542	797	3,827	24,351	75,554
Full-time first-year total (8)											63,654
Full-time first-year women (9)											25,118
=====											
6. PART-TIME GRADUATE S/E STUDENTS	Total (1)	109,321									
	Women (2)	48,534									
=====											
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS											
U.S. citizens only											
	Black non-Hispanic (A)	American Indian/Alaskan (B)	Asian/Pacific Islander (C)	Hispanic (D)	White non-Hispanic (E)	Other or unknown (F)	Foreign (G)	Total (sum of columns A - G) (H)			
Full-time (1)	5,840	591	8,257	5,867	121,258	5,143	65,195	212,151			
Part-time (2)	4,819	376	4,487	3,471	79,524	5,008	11,636	109,321			
=====											
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF											
Postdoctorates											
Source of support											
	Fellowships (A)	Traineeships (B)	Research grants (C)	Non-Federal (D)	Total for all sources (A - D) (E)	Foreign postdoctorates (F)	Other non-fac. doctoral research staff (G)				
Total (1)	1,569	1,394	9,489	5,119	17,571	8,473	3,253				
Women (2)	503	503	2,354	1,326	4,686	1,819	828				
With MD, DDS, or DVM degrees (3)	470	562	676	1,084	2,792	1,127	220				

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table IV-D-2. Summary of responses from all departments
at all private institutions: fall 1990

Number of departments: 3,190

Students receiving financial assistance												
5. FULL-TIME GRADUATE S/E STUDENTS	Federal sources (excluding loans)								Non-Federal sources		Self support (includ. loans & family sources) (J)	Total for all sources (sum of columns A - I) (K)
	HHS											
	DOD (A)	NIH (B)	Other HHS (C)	NSF (D)	Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)	Other U.S. sources (I)			
Graduate fellowships (1)	310	472	56	1,160	7	847	5,791	1,084	1,580		11,307	
Graduate traineeships (2)	50	2,200	585	23	12	437	3,094	96	262		6,759	
Graduate research assistants (3)	1,916	2,861	255	2,957	86	2,456	4,901	160	2,932		18,524	
Graduate teaching assistants (4)		24	4	20	0	77	12,356		124		12,605	
Other types of support (5)	401	77	49	4	1	229	4,067	1,034	1,260	27,368	34,490	
FULL-TIME TOTAL (6)	2,677	5,634	949	4,164	106	4,046	30,209	2,374	6,158	27,368	83,685	
Full-time women (7)	416	2,399	638	937	47	1,179	11,425	431	1,658	12,732	31,862	
Full-time first-year total (8)											24,506	
Full-time first-year women (9)											10,214	
=====												
6. PART-TIME GRADUATE S/E STUDENTS	Total (1)	53,786										
	Women (2)	23,501										
=====												
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS												
	U.S. citizens only							Total (sum of columns A - G) (H)				
	Black non-Hispanic (A)	American Indian/ Alaskan (B)	Asian/ Pacific Islander (C)	Hispanic (D)	White non-Hispanic (E)	Other or unknown (F)	Foreign (G)					
	Full-time (1)	2,409	177	3,849	1,966	47,115	2,554	25,615	83,685			
	Part-time (2)	2,405	126	2,602	1,265	38,100	4,970	4,318	53,786			
=====												
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF												
	Postdoctorates							Other non-fac. doctoral research staff (G)				
	Source of support											
	Fellowships (A)	Traineeships (B)	Research grants (C)	Non-Federal (D)	Total for all sources (A - D) (E)	Foreign postdoc- torates (F)						
	Total (1)	1,338	1,332	5,840	4,401	12,911	6,237	2,026				
	Women (2)	441	457	1,394	1,277	3,569	1,517	569				
	With MD, DDS, or DVM degrees (3)	391	633	819	1,699	3,542	1,664	227				

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table IV-D-3. Summary of responses from all departments at all historically black institutions: fall 1990

Number of departments: 174

5. FULL-TIME GRADUATE S/E STUDENTS	Students receiving financial assistance								Self support (includ. loans & family sources) (J)	Total for all sources (sum of columns A - I) (K)		
	Federal sources (excluding loans)					Non-Federal sources						
	HHS			NSF (D)	Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)			Other U.S. sources (I)	
	DOD (A)	NIH (B)	Other HHS (C)									
	Graduate fellowships (1)	3	20	4	8	0	89	116			3	34
	Graduate traineeships (2)	15	81	18	0	0	19	1			0	23
	Graduate research assistants (3)	52	73	4	30	54	92	136			5	15
	Graduate teaching assistants (4)		1	0	0	0	45	268				14
	Other types of support (5)	1	5	0	1	2	31	131			7	29
	FULL-TIME TOTAL (6)	71	180	26	39	56	276	652			15	115
Full-time women (7)	23	91	20	13	21	94	291	4	46			
Full-time first-year total (8)										688		
Full-time first-year women (9)										332		
6. PART-TIME GRADUATE S/E STUDENTS		Total (1)									1,489	
Women (2)											699	
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS		U.S. citizens only							Total (sum of columns A - G) (H)	Total (sum of columns A - G) (H)		
		Black non- Hispanic (A)	American Indian/ Alaskan (B)	Asian/ Pacific Islander (C)	Hispanic (D)	White non- Hispanic (E)	Other or unknown (F)	Foreign (G)				
	Full-time (1)	1,143	0	118	22	176	54	626	2,139			
	Part-time (2)	818	3	66	3	258	38	303	1,489			
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF		Postdoctorates					Total for all sources (A - D) (E)	Foreign postdoc- torates (F)	Other non-fac. doctoral research staff (G)			
		Source of support										
		Fellow- ships (A)	Trainee- ships (B)	Research grants (C)	Non- Federal (D)							
	Total (1)	3	0	49	8	60	34	16				
	Women (2)	1	0	18	3	22	10	3				
	With MD, DDS, or DVM degrees (3)	0	0	4	2	6	4	0				

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table IV-D-4. Summary of responses from all departments
at all land grant institutions: fall 1990

Number of departments: 3,014

5. FULL-TIME GRADUATE S/E STUDENTS	Students receiving financial assistance									Self support (includ. loans & family sources) (J)	Total for all sources (sum of columns A - I) (K)
	Federal sources (excluding loans)					Non-Federal sources					
	HHS				Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)	Other U.S. sources (I)		
	DOD (A)	NIH (B)	Other HHS (C)	NSF (D)							
Graduate fellowships (1)	283	207	80	958	100	1,094	4,223	983	1,505		9,433
Graduate traineeships (2)	69	1,328	1,039	25	51	499	1,021	77	187		4,296
Graduate research assistants (3)	2,674	3,389	494	4,912	2,115	5,763	13,549	473	6,038		39,407
Graduate teaching assistants (4)		18	6	41	37	175	27,909		180		28,366
Other types of support (5)	434	78	16	44	73	455	2,947	1,323	1,391	23,396	30,157
FULL-TIME TOTAL (6)	3,460	5,020	1,635	5,980	2,376	7,986	49,649	2,856	9,301	23,396	111,659
Full-time women (7)	528	2,082	1,208	1,300	808	1,979	16,311	558	2,433	8,734	35,941
Full-time first-year total (8)											31,386
Full-time first-year women (9)											11,101
6. PART-TIME GRADUATE S/E STUDENTS											
Total (1)	30,294										
Women (2)	12,033										
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS											
	U.S. citizens only							Total (sum of columns A - G) (H)			
	Black non- Hispanic (A)	American Indian/ Alaskan (B)	Asian/ Pacific Islander (C)	Hispanic (D)	White non- Hispanic (E)	Other or unknown (F)	Foreign (G)				
Full-time (1)	2,556	294	4,717	3,610	61,432	1,778	37,272	111,659			
Part-time (2)	1,116	99	961	1,020	21,835	832	4,431	30,294			
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF											
	Postdoctorates						Other non-fac. doctoral research staff (G)				
	Source of support					Total for all sources (A - D) (E)	Foreign postdoc- torates (F)				
	Fellow- ships (A)	Trainee- ships (B)	Research grants (C)	Non- Federal (D)							
Total (1)	927	674	5,664	3,196	10,461	4,894	2,560				
Women (2)	278	247	1,378	849	2,752	1,066	628				
With MD, DDS, or DVM degrees (3)	238	189	272	573	1,272	509	147				

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

Table IV-D-5. Summary of responses from all departments
at all medical schools: fall 1990

Number of departments: 2,881

=====											
5. FULL-TIME GRADUATE S/E STUDENTS		Students receiving financial assistance								Self support (includ. loans & family sources) (J)	Total for all sources (sum of columns A - I) (K)
		Federal sources (excluding loans)					Non-Federal sources				
		HHS			MSF (D)	Dept. of Agr. (E)	Other Federal sources (F)	Inst. support (G)	Foreign sources (H)	Other U.S. sources (I)	
		DOO (A)	NIH (B)	Other HHS (C)							
Graduate fellowships (1)		20	408	74	138	2	45	1,431	67	349	2,534
Graduate traineeships (2)		24	1,778	1,001	12	2	288	1,016	17	125	4,263
Graduate research assistants (3)		107	3,035	212	66	36	98	2,282	42	537	6,415
Graduate teaching assistants (4)			47	2	2	0	11	1,114		17	1,193
Other types of support (5)		104	163	69	2	0	138	768	229	158	4,024
FULL-TIME TOTAL (6)		255	5,431	1,358	220	40	580	6,611	355	1,186	20,060
Full-time women (7)		92	2,369	1,031	105	23	373	3,180	114	534	10,380
Full-time first-year total (8)											6,085
Full-time first-year women (9)											3,458
=====											
6. PART-TIME GRADUATE S/E STUDENTS		Total (1)		5,991							
		Women (2)		4,284							
=====											
7. RACIAL/ETHNIC BACKGROUND OF GRADUATE S/E STUDENTS		U.S. citizens only						Total (sum of columns A - G) (H)			
		Black non- Hispanic (A)	American Indian/ Alaskan (B)	Asian/ Pacific Islander (C)	Hispanic (D)	White non- Hispanic (E)	Other or unknown (F)			Foreign (G)	
Full-time (1)		565	72	1,125	875	13,091	210	4,122	20,060		
Part-time (2)		240	30	129	365	4,886	97	244	5,991		
=====											
8. S/E POSTDOCTORATES AND NONFACULTY DOCTORAL RESEARCH STAFF		Postdoctorates					Total for all sources (A - D) (E)	Foreign postdoc- torates (F)	Other non-fac. doctoral research staff (G)		
		Source of support				Non- Federal (D)					
		Fellow- ships (A)	Trainee- ships (B)	Research grants (C)							
Total (1)		1,744	2,170	5,484	5,007	14,405	6,482		1,487		
Women (2)		576	738	1,683	1,545	4,542	1,800		579		
With MD, DDS, or DVM degrees (3)		787	1,134	1,247	2,556	5,724	2,471		333		
=====											

Source: National Science Foundation/SRS, Survey of Graduate Students and Postdoctorates in Science and Engineering

SPECIALIZED PAMPHLETS AVAILABLE

In response to the particular interests expressed by many users of data from the Survey of Graduate Students and Postdoctorates in Science and Engineering, a number of pamphlets have been prepared which concentrate on various aspects of the survey results. If you would like to receive additional pamphlets, please check the appropriate boxes below and return this page with your name and address to the NSF survey monitor:

J. G. Huckenpöhl, Ph.D.
Program Analyst
Division of Science Resources Studies
Room L-609
National Science Foundation
1800 G Street, N.W.
Washington, DC 20550

Name: _____

Organization: _____

Street Address: _____

City, State, ZIP: _____

- ☐ 1. Trends in graduate S&E enrollment, 1975-90
- ☐ 2. Enrollment status (full-time/part-time)
- ☐ 3. Source of major support
- ☐ 4. Mechanism of support
- ☐ 5. Sex
- ☐ 6. Level of Enrollment
- ☐ 7. Citizenship
- ☐ 8. Racial/ethnic background
- ☐ 9. Institutional highest degree granted
- ☐ 10. Type of institutional control
- ☐ 11. Geographic distribution
- ☐ 12. Individual institution listings
- ☐ 13. Postdoctorates and other nonfaculty research personnel
(Doctorate-granting institutions only)
- ☐ 14. Historically Black Colleges and Universities
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